Meeting of the Federal Open Market Committee on October 23–24, 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, October 23, 2012, at 1:00 p.m. and continued on Wednesday, October 24, 2012, at 9:00 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, Charles L. Evans, Esther L. George, and Eric Rosengren, Alternate Members of the Federal Open Market Committee

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

William B. English, Secretary and Economist
Deborah J. Danker, Deputy Secretary
Matthew M. Luecke, Assistant Secretary
David W. Skidmore, Assistant Secretary
Michelle A. Smith, Assistant Secretary
Scott G. Alvarez, General Counsel
Thomas C. Baxter, Deputy General Counsel
Steven B. Kamin, Economist
David W. Wilcox, Economist

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

Simon Potter, Manager, System Open Market Account

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

James A. Clouse, Deputy Director, Division of Monetary Affairs, Board of Governors

Andreas Lehnert, Deputy Director, Office of Financial Stability Policy and Research, Board of Governors

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

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

Eric M. Engen, Michael T. Kiley, and Michael G. Palumbo, Associate Directors, Division of Research and Statistics, Board of Governors

Joshua Gallin, Deputy Associate Director, Division of Research and Statistics, Board of Governors

Marnie Gillis DeBoer, Assistant Director, Division of Monetary Affairs, Board of Governors

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

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

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

Jeff Fuhrer and Loretta J. Mester, Executive Vice Presidents, Federal Reserve Banks of Boston and Philadelphia, respectively

Troy Davig, Spencer Krane, and Kevin Stiroh, Senior Vice Presidents, Federal Reserve Banks of Kansas City, Chicago, and New York, respectively

William Gavin, Evan F. Koenig, Lorie K. Logan, and Paolo A. Pesenti, Vice Presidents, Federal Reserve Banks of St. Louis, Dallas, New York, and New York, respectively

Thomas D. Tallarini, Jr., Assistant Vice President, Federal Reserve Bank of Minneapolis

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

Eric T. Swanson, Senior Research Advisor, Federal Reserve Bank of San Francisco

Transcript of the Federal Open Market Committee Meeting on October 23–24, 2012

October 23 Session

CHAIRMAN BERNANKE. Good afternoon, everybody. A couple of people asked me about the leak investigation relating to the Hilsenrath and Medley Global Advisors pieces. Just to remind you of what I wrote to you, I have asked Scott Alvarez and Bill English to do an initial review, and, based on their findings, we will take further steps as indicated. I also asked Michelle to talk to all of the public affairs officers in the System to try to help them guide their principals and staff in following the rules, and I think that's already been done. My own sense is that the leaks were probably unintentional. We have very good reporters talking to lots and lots of people. But that said, they are obviously damaging to the reputation and credibility of the Committee, so I urge everybody, please, to be more careful in the future.

On a somewhat lighter note, I want to ask President Evans and President Williams if they made the World Series bet yet. Not yet? All right.

MR. WILLIAMS. We decided to delegate that to the first vice presidents. [Laughter]

MR. EVANS. They're better at it than we are.

CHAIRMAN BERNANKE. Very good. Congratulations, and we're trying to recover here in Washington.

Okay. The first item on our agenda is "Thresholds." This has to do with our forward guidance for the federal funds rate. As you know, we currently have guidance that suggests the date at which we expect to begin to raise rates. I think many people around the table agree that that's not the optimal way to communicate our future policy, and that it would be better if we could do a state-contingent type of policy. But the details matter—in particular, the language we use, the choice of indicators, the values, and so on. So we have asked the staff to prepare a background memo, which, I hope you agree, was very good, very informative. I will ask Eric Engen to make a presentation, we'll ask some questions, and then we'll do a go-round and see what the views are on this issue. So let me turn it over to Eric.

MR. ENGEN.[1] Thank you. I will be referring to the handout titled "Material for Briefing on Thresholds," which has been distributed.

In a memo circulated to the Committee last week, the staff analyzed the merits of replacing or augmenting the current date-based forward guidance with specific threshold values of inflation and unemployment that would need to be attained before policymakers would consider increasing the federal funds rate target. As outlined in the top panel of the first exhibit, you may be concerned that the current forward guidance could lead market participants to focus on the expected date of liftoff rather than the conditionality of the outlook for the funds rate target and so leave the impression that the Committee has committed to a specific time-dependent policy. By contrast, quantitative thresholds could increase the clarity of the Committee's intentions and improve market participants' understanding of the monetary policy reaction function. In particular, thresholds could enable market participants to obtain a better understanding of how the onset of policy firming might shift in response to changes in the economic outlook. Such guidance may make it more likely that market responses to economic developments would move longer-term interest rates in a direction and by an amount consistent with the Committee's view regarding the likely future path of short-term rates. Enhanced clarity about the Committee's intentions might also reduce uncertainty about the future stance of policy. In both ways, thresholds could therefore contribute to improved macroeconomic performance.

As indicated by the second bullet, the adoption of thresholds could also facilitate the Committee's deliberations. With the current date-based forward guidance, the Committee must regularly review the date to verify that it is still appropriate—a review that can be contentious because participants have different views about the economic outlook and about the appropriate date for the onset of policy firming. In principle, thresholds could allow participants with different outlooks to agree on the statement's forward guidance and to do so in a way that needs to be reviewed only from time to time.

Finally, the announcement of a thresholds strategy might provide additional policy stimulus if it were to materially change market expectations for the future path of the federal funds rate, both with regard to the date when policy would begin to firm and the subsequent pace of tightening.

The bottom panels of the exhibit illustrate both the limits and the force of this last point. The September consensus forecast is plotted as the black lines, and let's

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

assume that market expectations are currently in line with this baseline forecast. We then assume that the FOMC credibly promises to keep the funds rate near zero as long as the unemployment rate is above 6½ percent and inflation is projected to remain below 2½ percent, but once either threshold is crossed, it will follow the prescriptions of the outcome-based rule. As shown by the red lines, because this strategy implies essentially the same path for the funds rate as in the baseline, it has almost no effect on real activity or inflation. However, if the Committee were to announce the more aggressive threshold strategy, denoted by the green lines, in which the unemployment threshold is 5½ percent and the inflation threshold is 3 percent, then the date when policy firming begins would be postponed by a year, resulting in lower unemployment and higher inflation.

The blue lines illustrate a somewhat different point—that forward guidance about the Committee's strategy for the pace of tightening after liftoff also can have an important effect on the economy. Here, the Committee announces the same moderate threshold settings of 6½ percent for unemployment and 2½ percent for inflation as were implicit in the red lines, but also credibly promises to tighten more slowly than market participants initially anticipate by following the more gradual prescriptions of an inertial version of the Taylor (1999) rule. As can be seen, this strategy does about as well as the more aggressive threshold strategy in providing additional policy stimulus.

These simulation results are not general, because they show only the performance of the different threshold settings and policy rules given the underlying economic conditions of the September consensus forecast. As outlined at the beginning of the top panel in the second exhibit, for this reason we undertook a more comprehensive analysis of threshold settings and policy rules when the economy—as approximated by the FRB/US model—is buffeted by a wide range of shocks.

Subject to the usual caveats that necessarily apply to any model-based analysis, two main lessons emerged from this exercise. First, the model simulations suggest that the Committee could use thresholds to help clarify its communications without compromising macroeconomic performance. In particular, using projected inflation and unemployment thresholds to guide the return to a "normal" policy setting—as approximated by having the federal funds rate follow the prescriptions of a simple policy rule after either of the thresholds is crossed—would likely perform fairly well under a variety of economic conditions. Second, the model simulations suggest that the use of thresholds could improve expected macroeconomic performance—subject to the caveat that thresholds can be set too aggressively.

I should note that we explored the effects of more threshold combinations than we reported in the memo, and that one of these followed President Kocherlakota's proposal to set the unemployment threshold at 5½ percent and the inflation threshold at 2½ percent. Although we found that these settings worked well in many circumstances, we ran into technical obstacles in solving the model with them in our stochastic simulations and so did not include this case in our analysis.

We also investigated some issues that arise when thresholds are defined in terms of the unemployment rate and projected inflation, where two important conclusions emerged. First, because the amount of slack in labor markets is uncertain, reliance on an unemployment threshold creates a risk that the Committee could keep policy persistently easier or tighter than it would choose to if it had full information about the economy. However, this risk is associated with any policy strategy that uses measures of labor market slack to help guide the setting of the funds rate, and the use of thresholds may not exacerbate it greatly. Moreover, the consequences of such measurement error would probably be modest provided that inflation expectations remained reasonably well anchored and the Committee corrected its error once it saw inflation rising substantially above its target.

Second, because inflation—even projected inflation—is subject to a certain degree of inherent volatility, setting the inflation threshold at a level only modestly above 2 percent would make it highly likely that this threshold would be crossed relatively early despite a still-elevated level of unemployment. As a result, economic outcomes could be less favorable than those obtained with a somewhat higher inflation threshold.

We also considered some of the communications challenges that would likely be associated with using a thresholds strategy in the Committee's forward guidance. One challenge is that it's difficult to formulate a threshold for inflation in terms of the realized headline inflation rate because headline inflation is volatile and often buffeted by significant but transitory shocks, particularly from oil and other commodity prices. A second challenge is that the effect of monetary policy on current financial and economic conditions depends at least as much on market participants' expectations for policy after the onset of policy firming as on the expected start date of firming. A third challenge arises because the thresholds would likely differ from the Committee's longer-run objectives and market participants may not understand the distinction. Finally, the use of a threshold strategy would describe monetary policy in terms of two variables, but the Committee draws on a wide range of indicators when setting monetary policy. Our memo provided possible statement language that would address some of these communications challenges. That language is reproduced on exhibit 3 of your handout.

The last page of the handout provides the questions for discussion that were distributed to you last week, which you may want to refer to in your remarks. I would now be glad to take any questions that you have.

CHAIRMAN BERNANKE. Thank you very much. Are there any questions for the staff? President Bullard.

MR. BULLARD. Yes. Thanks for the presentation. I'm looking at the "Federal Funds Rate" picture on exhibit 1. The green here, the outcome-based rule, has the liftoff date in the second quarter of 2016, if I'm reading this correctly. I think the relevant comparison would be this particular threshold versus the Committee just saying that instead of mid-2015, the date is going to be the second quarter of 2016. Then would I get the same green lines here that you're showing?

MR. ENGEN. In the model, whether it's an announced date or whether it's the thresholds, the public takes that as credible and they are following the same rules. So if you just shifted the date, you would get very similar results.

MR. BULLARD. We often talk about thresholds as if the state-contingent policy is going to give us something different than the date-contingent policy, but really, in the model, it's the same thing.

MR. ENGEN. Well, would those thresholds help clarify that? In the model here, we're assuming that the public has the same outlook for economic conditions and fully understands what the intent of policy is. Providing the conditions that we expect to see at the time of liftoff may help clarify for the public exactly what those conditions are.

MR. WILCOX. Correct me if I'm wrong, but the date-contingent policy and the thresholds will give exactly the same answer in a nonstochastic environment, correct?

MR. ENGEN. Yes.

MR. WILCOX. But if the date-contingent statement is a binding commitment, they'll give different results in a stochastic simulation.

MR. BULLARD. Well, in a stochastic simulation, the date, for instance, might move earlier because the data come in more positively, but a date-contingent policy would not move. And according to the model, that would actually be more accommodative than the state-contingent policy.

MR ENGEN. If you had the dates always moving exactly where the thresholds were and the public understood that, then yes, they would behave the same in the deterministic or the stochastic environment.

MR. BULLARD. Okay. Thank you.

CHAIRMAN BERNANKE. Other questions? President Plosser.

MR. PLOSSER. Just a technical question. On the simulations as you do them, the assumption appears to be that once these thresholds are in fact triggered, policy would then revert to the outcome-based rule or something upon the reaching of the threshold. So the presumption is that the Committee will in fact act when those thresholds are reached. Is that correct?

MR. ENGEN. Well, I just want to clarify. It is definitely the case that once one of the thresholds is crossed—or if both of them are crossed simultaneously—policy moves to, say, the outcome-based rule. That doesn't necessarily mean that the federal funds rate starts to rise. And indeed, in some of the simulations that we did, particularly in the stochastic setting, you can see that there's a much wider range across all of the different policy settings for crossings than there is for actually having the federal funds rate start to rise. So it's not the case that, immediately after crossing a threshold, it is assumed that the federal funds rate has to start rising. If the prescription of the rule is such that it would say, "Still keep the funds rate at approximately zero," it would stay there until the prescription of the rule had it starting to rise.

MR. PLOSSER. Okay.

MR. ENGEN. So it's not a trigger in the sense of the funds rate.

MR. PLOSSER. No, I understand. But you are switching regimes at that point.

MR. ENGEN. It switches from the threshold to a policy rule, yes.

CHAIRMAN BERNANKE. Okay. Seeing no more questions, let's start with Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. I apologize in advance for the length of my comments on this subject. So I'll balance my interventions off by keeping my comments in the next three go-rounds very brief. I'll actually trust Betsy to keep me under two minutes on each of the next several.

I think we need to distinguish here between, on the one hand, making the abstract choice between thresholds and future dates as a matter of textbook monetary policy and, on the other hand, making a practical choice about whether to substitute specific thresholds for the specific mid-2015 date that's already in our statement. As an abstract matter, there seems to be a very good case for the use of thresholds, which, whatever their imperfections and shortcomings, define our reaction function better than the use of a date. This approach makes clear that the forward guidance is conditional on economic developments. The use of thresholds also obviates the need, for those observers who do understand that the date is conditional, to try to deduce the economic thresholds that the Committee associates with conditions that will prevail on the date identified in the forward guidance so as to be able to infer our reaction function. Finally, but not least, the approach would mercifully spare us the need to revisit the issue of the appropriate date regularly. In fact, there looks to be the opportunity for Pareto-type gain here—that is, if we all agree on the superiority of thresholds as an abstract matter, we should be willing to substitute thresholds that leave unchanged the amount of accommodation achieved by the mid-2015 date, based on our current knowledge and expectations. Most, if not all, of the problems and issues that may be raised by the use of thresholds, such as whether or how to specify the conditions under which the Committee might deviate, will also be present in some form where a date is used for forward guidance. Similarly, the question of how much we would be committed to thresholds is paralleled by the already extant question of how much we're committed to the date.

As to whether, given the particular circumstances in which we find ourselves, we should substitute thresholds for the mid-2015 date, I think the answer is less straightforward. The basic advantages of underscoring the conditionality of the forward guidance in both directions and of better communicating the likely parameters of that conditionality are, of course, still good reasons to do so. But there are considerations on the other side as well. Let me begin by mentioning two that I suggested last year when we first discussed this issue. Each still has merit, but I think each has become weaker than it seemed to me a year ago. First is the potential for sowing confusion by putting out numbers that are not themselves policy targets. This potential does still seem present, but I think it's been reduced somewhat by the fact that the threshold idea has been kicking around for a while now and also by the fact that we're further away from the publication of the inflation target earlier this year. The risk of confusion can be further mitigated through publication of minutes, through speeches as appropriate, and most importantly, through the Chairman's explanation at a press conference. Second was my hope that a good bit of what might be achieved with thresholds could also be achieved through a modified SEP or, conceivably, a consensus forecast, with less risk of confusing thresholds with targets and with less need to haggle over the phraseology of our conditionality. Those hopes have been somewhat dashed, though I think there's still some prospect of improving the SEP enough to serve a useful supporting role in forward guidance.

A third consideration is that the use of a date allows some ambiguity, whereas the threshold numbers are, by design, quite stark. Some Committee members who went along with the date might disagree on the appropriate numbers. Similarly, some may be uncomfortable with thresholds precisely because their use strongly suggests that they will be the dominant considerations in the Committee's decision, effectively excluding other considerations. That is, the inferiority of the date relative to thresholds for purposes of communicating clearly with the public may be an advantage in the practical task of forging a working consensus within the Committee or in preserving flexibility to react to developments other than the passing of the thresholds without the Committee thereby losing some credibility.

And so, at long last, to answer the first question, I don't believe we should decide in general terms whether or not we want thresholds, and then turn to defining what they might be. I would support the proposal in one of the unadopted alternative policy statements from the September meeting—that is to say, substituting the thresholds of 6.5 percent unemployment and 2.5 percent projected inflation for the mid-2015 date, thresholds that the staff memo explains to be roughly consistent with the accommodation provided by the inclusion of that date in our statement. I actually believe that, at least under the current expectations and analysis reflected in the memo, a lower unemployment number—say, 6 percent—could increase accommodation, compared with the mid-2015 date, without any change in the inflation number. And even if a lower unemployment number were eventually shown to be closer to—or conceivably below—the NAIRU than most of us currently think is the case, the inflation number should guard against an overshoot in accommodation because presumably inflation projections would be rising appreciably as we got closer to the actual NAIRU. Of course, if we put complete faith in the models and current projections, we could push the unemployment number down below what even the most optimistic of us believes will be the NAIRU over the coming couple of years, and push the inflation number down closer to the levels that we project will prevail. But because things usually don't quite turn out the way models predict, my instinct is not to try to cut things too closely, and I just incorporate by reference here what was in the staff memo and what Eric reemphasized in his presentation a few minutes ago. Indeed, the potential, maybe even likelihood, of unanticipated developments is a strong reason to move from a date to thresholds.

I would hope that those who supported the mid-2015 date could agree on these thresholds. I also think there's something in this change for those who oppose the date, whether on grounds that it was too much accommodation, that it was ill advised to use a date at all, or both. That is, even if you think the mid-2015 date is too accommodative, that's where we are now, and the shift to the thresholds would make the conditionality of our policy much more explicit. But I don't think the communication gains from this shift would be worth any removal of accommodation. So I would oppose any unemployment number higher than 6½ percent or any lower inflation number. If enough colleagues conclude that they can't go along with these numbers, either for the reasons I suggested earlier or for other reasons and thus we can't get agreement on them, I'd rather stick with the date, awkward as it is.

As to the other questions identified for FOMC discussion in the staff memo, I can provide some quick answers. On 2.a., I think the potential for misunderstanding would be significant if we retained the date while adopting thresholds. So I would make the change a clean substitute. On 2.b., I favor using an inflation projection, and I think it's got to be our own—either the FOMC central tendency or a staff projection. I believe it would be unwise to give private forecasters, even in the aggregate, this kind of influence over monetary policy. There's at least some chance that their forecasts would be affected by the knowledge of this influence. In the years since the financial crisis, Blue Chip forecasters have generally predicted higher inflation than our central tendency, but their projections and ours have proven right in about equal proportions. So I don't think anyone can make the case that we've been systematically biased low and wrong. Obviously, if there were an extended period during which private inflation forecasts were well above our central tendency, we'd need to address the reasons for the divergence. As to both questions 2.c. and 2.d., I would think the Committee would want to pursue ideas along the lines of the suggestions in the staff memo, though I would note again that these issues are also with us in the use of the mid-2015 date and so are not an independent reason to reject the threshold approach. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. First, my compliments to the staff for a good, thorough analysis of the issues involved in setting numerical thresholds; I particularly compliment you on the inclusion of so many stochastic simulations. I think they're really essential for us to think clearly about this. The memo also does a good job of summarizing the problems that we now have with our current, calendar-based forward guidance. Perhaps the key issue is the perceived dissonance between policy guidance in the statement and the funds rate forecasts in the Summary of Economic Projections. Tomorrow we'll discuss the idea of eliminating the dissonance by developing a consensus forecast to replace the SEP.

The staff's memo on the consensus forecast project suggests that we've reached something of an impasse. The memo stated the reason with admirable candor: "The Committee does not currently reach a consensus on the appropriate longer-run path for policy." That might get the award for understatement in staff analysis here. [Laughter] One might add that the Committee doesn't currently reach a consensus on the natural rate of unemployment, the monetary policy transmission mechanism, the reaction function, and a host of other things relevant to a forecast. Today, though, we're discussing an alternative approach to eliminating this dissonance: Instead of replacing the SEP, replace the calendar date with numerical thresholds. I predict that this effort will also reach an impasse, or should, for the same reasons the consensus forecast has—namely, failure to reach a consensus on a monetary policy reaction function. Thresholds are just one implication of a policy rule at a zero lower bound, so one might think it would be easier to obtain a consensus on thresholds than on an entire policy rule. But in current circumstances, the level of the unemployment rate at liftoff is about the most critical feature of the policy rule, so it's going to be the one that's the hardest to agree on.

The difficulty of obtaining a consensus on the thresholds is clearly evident in figure 5 of the September SEP packet that was distributed. This is the scatterplot that shows participants' forecasts of inflation rates and unemployment rates. And at the date of liftoff, there are different symbols: triangles, squares, dots, and the like—some colored, some not. Participants disagree, as we know, on the calendar year in which liftoff is most likely, and they disagree just as much on the unemployment rate that will prevail at the time of liftoff. In fact, the two seem to go hand in hand. Participants who forecast a later liftoff also forecast that liftoff will take place at a lower unemployment rate. In contrast, participants appear to agree that inflation will be near 2 percent at liftoff. So, just as an aside, regarding an assertion in the staff presentation, the disagreement is clearly less about the economic forecast than it is about the reaction function. It's as if we have very similar forecasts and just pick different times along that path at which we view it as appropriate to lift off and begin raising rates. So I don't think it's a matter of differing outlooks. I think it's a matter of differing reaction functions.

Numerical thresholds are also designed to remedy another problem with the calendar-based forward-guidance language, which is that some market participants might still be misinterpreting our guidance as a noncontingent commitment. Governor Tarullo talked about this. A related problem with the calendar-based guidance is that moving the date in—that is, toward the present—is a discrete and highly visible event, which might discourage such adjustment even if economic conditions would justify it. This was evident in April, Mr. Chairman, when I believe you described moving the date in as the first tightening move, which suggests a perceived danger that market participants would extrapolate and expect rate increases just around the corner if we were to do something like that. In contrast, the automatic adjustment that would take place if guidance was based on economic conditions would not require our positive action and thus would presumably involve less drama.

I think it makes eminent sense to move away from the calendar date; I've been saying that for some time. And I think it would make sense to move toward providing guidance by saying more about the economic conditions under which we envision lifting off. But I think it would be much better to do so by adopting qualitative language rather than specific numerical thresholds for the unemployment rate. For example, we could say that "the Committee anticipates exceptionally low levels of the federal funds rate until it sees a substantial improvement in labor market conditions" or "substantial ongoing improvement in the labor market"—add your central bank adjectives—subject to the usual provisions about inflation and expectations.

Qualitative language would avoid several pitfalls associated with adopting numerical thresholds. For one, adopting a numerical threshold based on the unemployment rate places a great deal of weight on our understanding of labor force participation. This seems particularly difficult to forecast right now because it's not clear how much of the decline in participation since the recession is cyclical and how much is trend. In particular, an implication of this is that labor force growth might pick up rapidly in response to an increase in employment growth, or it might not. I think there's a substantial uncertainty we need to recognize about that. On the other hand, the unemployment rate could fall without a substantial increase in employment growth simply because of increased net flow from unemployment to nonparticipation. A broader principle here is that in practice, we consider a wide range of indicators in assessing labor market conditions. In fact, we said exactly that in our January consensus statement—that we consider a wide range of indicators in assessing labor market conditions. Adopting a numerical threshold based on just one statistic opens us up to a significant risk of getting boxed in if that particular indicator goes astray. Guidance based on qualitative characterization of the conditions under which we would lift off, I think, provides benefits and avoids the pitfalls. And, in addition, it would be much easier to build a consensus on qualitative language than it would be to build one on specific numerical thresholds.

I also believe that the broader optics of what we were doing in the statement deserve consideration here. In September, we tilted our statement toward significantly more concern about unemployment. In comparison, the provisos regarding inflation seem perfunctory, like boilerplate, especially in the potentially confusing reference to price stability in the fourth paragraph. We spent much of last year talking about inflation and unemployment in debating the consensus statement. We wrangled over that for months, and we agreed that it made sense to write down a numerical objective for inflation. We agreed that it did not make sense and would be misleading for the Committee to write down a numerical figure for the unemployment rate, and we are considering doing just that. I don’t see how to reconcile the language of the consensus statement with the use of numerical thresholds in the statement, and to me, it seems like more of a repudiation of the January statement to do so. So I oppose numerical thresholds, Mr. Chairman. Thank you very much.

CHAIRMAN BERNANKE. President Kocherlakota.

MR. KOCHERLAKOTA. Thanks. I had a question for President Lacker, because I think this issue about labor force participation has come up before when we talked about thresholds. So I'd be interested in what conditions about labor force participation would lead you to want to raise rates even though the unemployment rate was, say, above 6½ percent.

MR. LACKER. I'm sorry—above what?

MR. KOCHERLAKOTA. Above 6½. Suppose the threshold was 6½, as Governor Tarullo talked about. You're positing that labor force participation is growing rapidly. What would be the conditions that would lead us to want to raise rates at that time?

MR. LACKER. In the staff memo, figure 2 shows the performance of a threshold strategy in the face of unanticipated shocks to aggregate demand. There's stronger demand, weaker demand, and the baseline. Real GDP growth varies substantially. The federal funds rate path varies substantially. In the stronger-demand case, it's 4 percent in late 2015; in the baseline, it begins to rise in 2015; and in the weaker-demand case, it doesn't rise until the first quarter of 2017. The civilian unemployment rate is very different across the scenarios. Well, what if labor force participation is far more elastic with regard to employment growth than depicted by these simulations? If that's true, the unemployment rate might not vary much at all across these scenarios in the limit—it's conceivable—in which case we'd have different demand conditions but virtually the same unemployment rate, and we might need a 4 percent funds rate in late 2015, or we might need to wait until 2017—we don't know. It could be orthogonal. It could be very independent of what rate we want. That's the kind of thing I have in mind, President Kocherlakota.

MR. KOCHERLAKOTA. Okay. I guess I still don't quite understand your objective function. I'll have to think about that one.

MR. LACKER. I'm sorry?

MR. KOCHERLAKOTA. I still don't quite understand your objective function. You're defining it somehow in terms of GDP or employment in a way. You're not defining it in terms of utilization, I guess.

MR. LACKER. This turns on the question of the relationship between labor force participation and capacity. And you could identify those very closely. There's a lot of literature that talks about the permeability of that boundary. I don't think the standard models on which a New Keynesian Phillips curve is built say much about that margin at all. They talk about output growth and inflation. They talk about marginal cost, which is going to depend on employment, not on the supply of labor. So what we know about the interaction of inflation and output growth, and the possibility for nonneutrality in the standard models these days, links it to marginal cost, and that's going to be linked to real output and growth. That suggests that the reaction function should depend on what happens to employment growth, not on what happens to unemployment, at least if unemployment can be influenced independently by variation in labor force participation. You see?

CHAIRMAN BERNANKE. On another topic, I would question your statement that this is inconsistent with the consensus statement. The consensus statement is about long-run monetary neutrality. It's not inconsistent to have a Taylor rule, for example, that defines short-run monetary policy as a function of current variables without claiming that you can peg the unemployment rate in the long run. So I don't think that's inconsistent. President Evans.

MR. EVANS. I'm sorry, I'm not sure I followed the interchange here very well, so if I could express it the way that I would think about this. The concern that I would have thought you were trying to point us toward was, if we find ourselves with a threshold that is inappropriate so that we find ourselves pushing a ton of accommodation into the economy, then we could get stuck. Well, the inflation safeguard is there to protect us against that. So if we're not generating a lot of inflationary pressures, I'm not quite sure what the risk is that you're pointing to—as I see you shake your head.

MR. LACKER. I take it that we're trying to design a policy that doesn't go off track. It doesn't require us to "go off the rails" and then "get back on the rails."

MR. EVANS. Sure. I thought "off the rails" was inflation in this case.

MR. LACKER. Yes. But you don't want to drive the car down the highway just counting on bouncing off guardrails to keep you on the road.

MR. EVANS. That's what it is.

MR. STEIN. I think this is the center lane.

MR. LACKER. This is the broader point we've talked about before on this topic, about the role of the inflation escape clause. The policy rules we implement and the models we have possess the property that it's always the case that inflation is expected to return to the monetary policy authority's target. Always. Probability 1. Very definitely. These thresholds sound like, "Well, we're going to run a policy that might not be consistent with that, and then when inflation goes away from that, we'll change our mind and come back." And it means you have to wait and see that happen. Ideally, you want to run a policy that maintains price stability, not one that lets it drift around.

MR. EVANS. Right. But 2½ percent is so close to our long-run target, that's really not much play at all. The issue is not so much what's in our models. In this particular case, it strikes me that the safeguard is about not what's in our models but what's in the real world. I go out and talk to businesspeople all the time; I try to convey these types of accommodative policies, and they leap to 3 percent, 4 percent inflation before anybody is breathing hard. In that world, we've got the safeguard. So, at any rate—that's my interpretation.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. I forgot what I was going to say, Mr. Chairman. In summary [laughter]—I come out where President Lacker is. That is, I don't like the date-contingent language. We've talked about this for a long time. But I do find great difficulty in coming down to specifics, and I like the recommendation of qualitative, state-contingent statements. Now, while I've been contemplating this, I've also been reading a book by Ken Follett called *Winter of the World*. And when Dan talked about abstract choices versus practical choices and then had that wonderful jewel of a sentence that says that things don't always turn out the way models predict, I thought of this great line from that book—which is about 700 pages into that long book—where the author writes about a character who's Harvard educated, by the way. He says, "Scientists were like this, he"—this character, who is Harvard educated—"knew from Harvard: for them theory was reality, and the world a rather inaccurate model." So I'm trying to think of the real-world aspects of this. I think the work done by the staff in the Board memo is really exceptionally good. It's very well crafted, and I do understand—and I've made my best efforts to understand—the theoretical and state-of-the-art model, which is what it is, or state-of-the-art argument, for having these specific thresholds. But I come back to, what would be the real-world requirements, and what would be the complexities? So, again, like Governor Tarullo, I promise to keep my subsequent comments on the economy and policy short. I'm going to take a little bit of time here.

Now, to be real world, it seems to me to make some sense that we emphasize, if we go down this path, our commitment to price stability. And in this exercise, this would mean setting a threshold for projected headline inflation rather than for realized headline inflation. I think realized headline inflation contains too much short-term noise to serve as a useful threshold variable. We'd have to be prepared to defend our inflation forecasts. I do not like the idea of relying on private forecasters. My sense of history is that Blue Chip forecasters have never been very accurate for long, certainly when looking forward for long time periods. I think the threshold, if we go down this path, could be realized and wrapped around core inflation. Or, as you know, being from Dallas, I would prefer trimmed mean inflation. I find that trimmed mean inflation, because it doesn't automatically throw out any particular categories of goods and services, has less of a public relations problem than core inflation. I find it very easy to sell when I explain it to people. It's more real world, and it's also a better rule-of-thumb forecast of headline inflation. Now, to reassure the real world, I think we'd have to include a specific, separate requirement that longer-term inflation expectations continue to be well anchored. That would deal with some of the concerns that we might have about broaching the 2½ percent since we're throwing a new number in there. And we would also possibly have to include an escape clause related to financial conditions. I would also say that, so as not to scare the real world, we'd have to signal that policy would not move sharply back to business as usual, even after rate hikes commence, probably by including a phrase like this: "Once it begins the process of normalizing the stance of monetary policy, the Committee expects to proceed at a gradual pace." This is, I think, referred to in footnote 32 of the Board memo.

But I come back to the real world. I think we have to take time in evaluating this project. The impact of our QE exercises, and particularly the last one, is still being evaluated. We don't really know what it is yet. We have to take account of the fact that the economic environment is very unsettled, fiscal demons are tormented, and uncertainty is rampant and is hampering decisionmaking. And even though we've made improvements, I think we have to acknowledge that our public image and the support we have—not unimportantly, in the Congress, but also among community and regional bankers and among others—are a little bit wobbly. Again, we have to be extremely careful in how we reflect this discussion in the minutes and how far we're willing to go, having done so much and having changed the way we do business so much—and, historically speaking, rather quickly.

With regard to the labor market, we need to keep in mind that the labor market is being constantly buffeted by forces and shocks that cause unemployment to fluctuate. I would think that monetary policy might be able to affect some of this, but there are other aspects of unemployment that I don't think it's appropriate for monetary policy to try to affect. It's still not clear to me—and I'm not sure it's clear to us, even though I've heard arguments on both sides—the degree to which unemployment is structural or the degree to which it's cyclical. To the degree that it's cyclical, I would think that monetary policy would be an appropriate or more appropriate tool to apply. And to the degree that it's structural—say, dependent on fiscal policy or education policy or whatever it may be—I would think that it would be beyond our control. We might help condition it, but we would have a great deal less control. So, to go back to President Lacker's statement and qualification, I would almost want it to say, in terms of the nonquantified expression that we would look for, that we would look for "substantial improvement in labor markets that can be affected by monetary policy." Another thing I would want to consider is, how would we unannounce a threshold target if unemployment data show that the natural rate of unemployment that we assumed, is actually higher? And I think that's something that we need to contemplate.

With regard to the questions, the first question is, “Do you think it would be beneficial to express the Committee’s forward guidance on the funds rate using numerical thresholds?” Obviously, my answer is no. And then the second one begins, “If the Committee were to incorporate such thresholds into the forward guidance,” and there are some subquestions. Again, I come back to the fact that the real issue here—as, I think, you stated in your presentation and as we all know—is what happens after liftoff. My staff has convinced me that a modified SEP—even though it’s difficult, Governor Tarullo—is probably a better vehicle for conveying our participants’ thinking about the likely date and conditions of liftoff. I plan to talk a little bit about that in less than two minutes tomorrow. Again, with regard to the second subquestion—“What variables should the thresholds reference?”—I think it’s critical that we have a proviso that we would make whatever decision we make under the conditions and understanding that longer-term inflation expectations remain well anchored. In terms of the third subquestion, “In what way”—and I like the qualifying “if at all”—“should the language indicate that the Committee may tighten policy before any thresholds are crossed?” Again, the requirement for longer-term inflation expectations to be well anchored is essential. It also may be appropriate to signal that the threshold system could be abandoned if the Committee senses a threat to financial stability. So somehow figuring out an escape clause is important. And yet, when you try to figure out how to do that, you get into very complicated language, which I think, in and of itself, is a strong signal that the whole exercise may not be conceptually sound.

I guess those are my comments, Mr. Chairman. Those are observations. In general, much as I don’t like the date-contingent guidance and would like to go for state contingency, putting specific numbers on this is, I think, a difficult exercise, as President Plosser argued from the very beginning and as others, including myself, also argued. I don’t believe it’s timely. I believe it should be further contemplated. And if we're going to proceed along these lines, which I think will be a very difficult consensus to achieve here, I would want to proceed along qualitative lines rather than quantitative lines. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Fisher, I'd just point out that in the language proposed by the staff, it does have the proviso that longer-term inflation expectations be well anchored. It also has an optional sentence, which says that the Committee will consider "other indicators of economic and financial conditions." It is possible.

MR. FISHER. I like those. I just wanted to underscore my support for them. But again, I come back to the numbers, which I'm concerned about. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Okay. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. I advocate using qualitative thresholds to help indicate the likely conditions under which policy firming may take place. Qualitative thresholds are versions of what we have now. On the employment side, we say that we want to observe sustained improvement in labor market conditions. On the inflation side, we stress that everything we do is in the context of price stability. In my view, this works well to convey the idea that the Committee intends to maintain an exceptionally accommodative policy well into the future. I think we can obtain all of the promised benefits through a qualitative approach. A quantitative approach, by contrast, raises a host of practical problems that are not easily addressed. I appreciate the staff memo, which summarized much of what has been discussed on this issue here at this table over the last two years or so. However, I did not find the analysis there very compelling. The memo downplayed what I see as a thicket of difficulties with quantitative thresholds. I think these difficulties may haunt the Committee into the distant future without providing any additional benefits today. Most of the problem is that communication would be in fact muddled, instead of clarified, with the adoption of quantitative thresholds. Let me discuss five key communications hazards with quantitative thresholds.

For each of these communications hazards, I will describe reasons why I think that qualitative thresholds avoid the communications problems but provide all of the benefits to the extent that they can be obtained through this channel. So here are five communications hazards. Communication hazard number 1: Hysteresis in unemployment is a known problem in industrialized countries. European unemployment went to high levels in the 1980s and never really dropped back down to lower levels. The phrase "structural labor market reforms" became part of the EU policymaking lexicon. My reading of the literature is that there are no completely satisfactory theories of the nature of the hysteresis problem. The theories that do exist emphasize real factors and subpar labor market policies, not monetary policy. If hysteresis occurs in the United States and we have tied monetary policy numerically to the unemployment rate, we will have two problems, not one. We will have a labor market that is not functioning in a satisfactory way and a monetary policy being pulled badly off course by poor labor market outcomes. In Europe, a threshold of 6.5 percent for EMU unemployment would have kept ECB monetary policy on hold for the entire period of the existence of the European Central Bank—from 1998 until the present. My argument is that it would be prudent for the Committee to talk about labor markets in a qualitative way in order to respect the fact that we know very little about the real factors driving the hysteresis problem in industrialized countries.

Communication hazard number 2: Thresholds will be interpreted as triggers. The staff memo goes to some length to describe what might or might not be decided once a threshold is encountered. Of course, the Committee does not have to act at that point. But if no action is taken, the private sector will rightly wonder why that particular threshold was chosen versus some other numerical value that better reflected the Committee's intention to act if the threshold was crossed. I thought the staff discussion in the memo was telling on this dimension, as it is in fact very difficult to simultaneously draw a line in the sand and then, once that line is crossed, maintain the position that policy action is not required. At a minimum, financial markets would change the probability they attach to the possibility of some action being taken by the FOMC once a threshold was encountered. They would surely change the probability. Of course, if markets change the probability of Committee action, that change in the probability will be priced into markets and the tightening of policy will already have occurred, regardless of what the Committee says at that point. It's possible and conceivable that the Committee would be able to completely convince markets that no action whatsoever will be taken once the threshold is crossed—that is, that the probability of FOMC action is still zero, even though the threshold has been encountered. But then the threshold, in my opinion, would have no meaning at all, because the Committee evidently in that case actually has some other, more true, more distant threshold in mind that would lead to a significant change in the probability of FOMC action. If that is the case, why didn't the Committee just name the true threshold in the first place? Again, all of this can be avoided by simply talking qualitatively about sustained improvement in labor markets in the context of price stability. We can then prepare markets when we are good and ready to prepare markets and the time comes to respond to either one of the qualitative triggers. Absent this preparation, markets would expect no action from the FOMC. This would give, in my opinion, the FOMC tremendous latitude. This seems like a more desirable way to run monetary policy.

Communication hazard number 3: The thresholds will be interpreted as an unemployment target and a deviation from the Committee's announced inflation target. This will almost surely be the case. I think this may badly damage our credibility, because we just announced our inflation target earlier this year. In our announcement, we essentially cited textbook macroeconomics in saying we did not think it was appropriate to set an employment target, because the central bank cannot influence labor market outcomes in the medium and longer run. Adopting numerical thresholds would raise many difficult-to-answer questions on this issue. Prudence suggests simply sidestepping this debate altogether by referring to our thresholds for action in a qualitative way—again, all of the benefits, in my opinion, without any of the costs.

Communication hazard number 4: Quantitative thresholds, as often discussed, do not represent a balanced approach to the dual mandate. Saying that the unemployment trigger is based on observed unemployment, while the inflation trigger is based on a forecast that puts heavy and questionable weight on output gaps, is not my idea of balance. The approach should treat the two sides symmetrically—either both as forecasts or both as observations. Trying to use observed core inflation as the metric for the inflation threshold has its own problems, as detailed in the staff memo. But again, all of this could be avoided by simply describing the thresholds qualitatively. I do not think that there is much doubt that we mean what we say in our qualitative approach. The thresholds for action are clearly in the distant future, and the Chairman can prepare markets should one of the qualitative thresholds be near.

Communication hazard number 5: The unemployment threshold suggests that the Committee is unconcerned, possibly, about aspects of poor labor market performance outside of the unemployment rate. The Committee's own key indicator of labor market performance is in fact not the unemployment rate but the nonfarm payroll employment number, yet the trigger is often stated as a marker on the level of unemployment. The labor force participation rate, which was already mentioned here, has been behaving in unexpected ways during the last four years and has also had an influence on the unemployment rate. Committee members often cite statistics regarding broader measures of unemployment—unemployment in specific sectors, hours worked, temporary workers, and so on. What we really want is an overall healthy labor market. Ideally, the Committee could design an index of labor market performance, taking into account all of these dimensions, and set a threshold for that index. Barring that, which doesn't seem imminent here, what we really need to refer to is some kind of broad barometer of labor market conditions. We can do that very effectively by simply setting the threshold in qualitative terms and saying that we're looking for a healthy labor market, which I think best represents the intentions of the Committee. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Rosengren.

MR. ROSENGREN. Thank you, Mr. Chairman. I've been supportive of using numerical economic outcomes to set thresholds rather than continuing to use amounts when discussing asset purchases or dates when discussing the eventual liftoff date. I am well aware that no one variable can proxy for labor market conditions or, for that matter, the underlying rate of inflation. In reality, we look at a broad array of data when evaluating how we are progressing against our dual mandate. This would be a problem if we were choosing a single variable to trigger action. However, providing a numerical threshold merely provides guidance on when we will discuss whether the broader array of data is consistent with taking a new action. Thus, if there are a variety of sometimes conflicting measures of inflation and labor market conditions, that's not a reason to avoid adopting thresholds.

I view numerical thresholds as being useful for two reasons. First, they provide a simple communication to the public tied to economic outcomes. We will not take action to reverse our policies until we reach a threshold. So if there is a negative shock, monetary policy automatically becomes more accommodative as the date for ending asset purchases or reaching liftoff is pushed further in the future. Second, qualitative measures can be offset by participants' communications, which, at times, may make our actions less effective. A quantitative threshold provides a clear indication that there is a consensus among voters that tightening will not begin at least until the threshold is attained. To be effective, a threshold must be simple to communicate and observable to the public. Unlike a trigger, it does not need to be precise. We are committing only to postpone action until the threshold is met and, at that time, to begin a discussion of whether taking action is consistent with the path to achieve our dual mandate within an acceptable time frame.

For a proxy of labor market conditions, I would use the unemployment rate. It is a variable widely understood by the public. At times, the unemployment rate can fall for reasons other than improvements in labor market conditions, but because we are setting a threshold, not a trigger, I am comfortable with that degree of imprecision. I would use an unemployment rate of 7¼ percent to begin a discussion of whether labor market conditions had improved "substantially," a term not well defined in qualitative terms for the public or, for that matter, for ourselves. I would use an unemployment rate of 6½ percent to begin a discussion of a potential liftoff of short-term rates.

For inflation, we have a target tied to the PCE inflation rate, so the threshold variable should be the same as our target variable. If we had a median PCE inflation forecast in the medium term that was publicly available at each meeting, that could be a potential threshold. What we decide about the SEP and consensus forecasts will be discussed later in the meeting. In the absence of a regularly disclosed PCE inflation forecast, I would use the four-quarter moving average of actual PCE inflation and an inflation threshold of 3 percent. The four-quarter moving average smooths the series to reflect the supply shocks that have occurred with some regularity, and the 3 percent threshold reflects that even this threshold is crossed in the historical data around times of significant supply shocks.

I view the threshold as a commitment to not take action until the threshold is reached. As a result, in answer to 2.d., I would not tighten before a threshold is crossed. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. Quite a number of my points have been made already, but I will go through some thoughts anyway. I haven't been a great fan of date guidance for a number of reasons. Date guidance is hard to adjust with changing conditions, and although we went to great pains to describe it as conditional, the date is taken as a commitment or promise by much of the public. In principle, I think expressing forward guidance in the form of economic conditionality ought to be preferable, but on consideration, I've concluded that specific numerical thresholds taken alone might not improve the clarity and effectiveness of our communications. So I'm going to advocate for thresholds that are pretty substantially qualified, even at the risk of diluting their influence on economic conditions.

I'm especially skeptical of a single numerical threshold for the unemployment situation. In my view, the unemployment rate is not a sufficient statistic for describing the economic conditionality we ought to have in mind. The Chairman put some emphasis on this point in his last press conference. In response to a question on the new LSAP, the Chairman emphasized that the decision process for continuing, adjusting, or halting the new LSAP program would be based not on a single market metric, but rather an array of indicators that collectively present a full picture of labor market conditions and prospects, and that the decision would involve a qualitative judgment in the end. I don't want to speak for you, Mr. Chairman, but that's my interpretation of what you said. I'm not sure I understand why this holistic approach to the conditionality that will guide our asset purchase decisions should not also guide our policy rate decisions. If the Committee chooses to adopt a numerical threshold for employment, I think it's likely that the threshold we introduce would have to be accompanied by substantial qualification to the effect that the unemployment rate is just one of several indicators; that, in practice, the Committee will synthesize a view from an evaluation of a dashboard of relevant data; and, therefore, that the single unemployment rate should not be taken as decisive. I have similar concerns about the risk of conveying simplistic and potentially misleading specificity around a single inflation metric. However, I don't feel so strongly on this side of the threshold question because there's been a lot of public education explaining that we look at a variety of inflation numbers to discern the trend. So I do not advocate full substitution of single numerical thresholds for the current practice of date guidance.

Now, to answer some of the questions: "Should the thresholds replace the date-based guidance or be combined with the date-based guidance?" On balance, I favor a combined approach, repeated routinely for a while, at least until conditions are such that we would want to change the date. The public has become accustomed to the date-based guidance. Keeping the date-based guidance provides more information, even if it may dilute somewhat the primacy of the thresholds and create a little confusion. Because the date currently projected is far in the future, it might make sense to use this combined approach for some time and then later drop the date guidance when the economy has evolved further.

"What variables should the thresholds reference? Regarding inflation, should the thresholds reference actual inflation or a projection?" I think this was said by someone earlier, by President Bullard, but I don't believe it's a good idea to specify an unemployment threshold in terms of a realized value while expressing an inflation threshold solely in terms of a projection. Symmetrical treatment is desirable in order to preserve a sense of a balanced approach. And I think it's possible to craft language explaining that the threshold both acknowledges realized values and places weight on the outlook for each threshold indicator. For example, focusing on inflation, the statement might read something like this: ". . . provided that realized inflation as indicated by the 12-month change in the price index for personal consumption expenditures, taken together with the Committee's projection of inflation at a one- to two-year horizon, does not deviate by more than ½ percentage point above the Committee's 2 percent objective and longer-term inflation expectations continue to be well anchored." I realize that that's a mouthful, but I think it's possible to combine both backward looking and forward looking in one statement. I'm comfortable with an unemployment threshold of 6½ percent and a ½ percent tolerance above the inflation objective, if sufficiently qualified as I said earlier.

There is a question of, "In what way, if at all, should the language indicate that the Committee may tighten policy before any thresholds are crossed?" I favor explicitly communicating that conditions may develop in which, in the Committee's judgment, policy would be tightened before a threshold is crossed. This may have to be repeated ritualistically to ensure that it isn't lost on the public consciousness. I think language to this effect could be easily enough included in the statement.

The final question: Should, and how should, "the Committee provide guidance about the timing of liftoff after a threshold is crossed and the likely course of policy after the initial increase" in the fed funds rate? The language that the staff members developed in their memo works quite well in that respect. So I think it's quite sufficient.

To summarize my views, I believe the tests of an approach to thresholds, if adopted, should be as follows: improves clarity of the Committee's reaction function to the extent possible, and I think there are limits in how far we can achieve that; allows flexibility to deal with various circumstances; recognizes that multiple indicators must be considered, and the Committee will make a judgment call in the end; and does not convey that thresholds have a hard and fast mechanical character. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Williams.

MR. WILLIAMS. Thank you, Mr. Chairman. I, too, appreciate the thought and the effort that went into the staff memo on thresholds. After listening to the discussion this morning, I'm actually not as critical of a calendar date as I used to be, as I'll comment on. If feasible, I would like to move away from calendar-date descriptions in our forward guidance and move toward descriptions based more on economic conditions, whether qualitative or quantitative. I see our September statement as actually a small step in that direction, and I think that's a good step. But moving further to explicit thresholds for funds rate liftoff obviously would have two main benefits, as has been discussed already. With suitably aggressive thresholds, we effectively signal our intention to stay low for longer than we typically would. Maybe that's a good thing. But more important, thresholds cause our forward guidance to adjust to incoming data automatically. If labor markets improve faster than expected or inflation gets too high, the expected timing of liftoff will move forward, and on the flip side, if the economy slows, the expected liftoff date endogenously moves out. So there's no need for the Committee to deliberate about whether or how much to move the calendar date. That is, to me, the main benefit.

I do think, as others have said, that thresholds bring some new challenges and potential pitfalls, and I'm just going to go through a couple of them. First—and it's discussed in the memo, and President Bullard talked about this—it's absolutely critical to communicate that we're talking about thresholds here and not triggers. President Rosengren, you made that point but thought the difference would not be confused. I'm actually more worried that this could be confused by the public, because if it's interpreted as triggers, that would be a negative thing.

Second, as we've talked about, focusing on just two variables in describing the conditions for liftoff could be problematic. Obviously, we look at countless variables. We look at forecasts, along with the risks to the outlook, in setting policy. I think that having these unemployment rate and inflation rate thresholds implies too tight of a relationship, and I'm just going to talk about unemployment for now, assuming that the inflation escape clause isn't hit. It implies a tighter relationship between unemployment and the date of liftoff than I think is really there. And this problem is illustrated by the notion of the medium-term natural rate of interest, or r*. Recall that the medium-term natural rate of interest is the intercept in a Taylor rule. So, according to the Taylor rule, the unemployment rate at which the funds rate rises above zero depends on one's estimate of the natural rate of interest. If the natural rate of interest declines, then liftoff would occur at a lower unemployment rate than otherwise. And that's just another way of saying that the unemployment rate associated with the liftoff date is not invariant to the estimate that you have of the r* natural rate of interest. This is not just a theoretical point. It's actually something that I think has been pretty important over the last couple of years. As I've mentioned and as the Vice Chairman and Governor Yellen have mentioned, there's quite a bit of evidence that the natural rate of interest has declined significantly over recent years. Indeed, my own thinking is that the appropriate threshold for the unemployment rate has come down significantly, in part because of mounting evidence of a sizable decline in the natural rate of interest. The current Tealbook also illustrates a related point nicely, since it modified the constant term in the outcome-based rule in a way that's equivalent to lowering r* and the conditions for liftoff.

So, despite these concerns about thresholds, we should strive to find ways to communicate more in terms of economic conditions rather than calendar dates, and I encourage continued efforts in this direction. Fortunately, our current approach, although far from perfect—and I think we've all criticized it in different ways—is not yet a "burning platform," as we say in the IT world. So there is time to work out some of these issues that we've been discussing. I would argue that the calendar date right now is actually working better than maybe one would have expected. Market expectations for liftoff currently align pretty closely with the Committee's, and when the economic conditions have changed, market expectations for the date of liftoff have changed correspondingly. That means that markets are not viewing our current policy as an unconditional commitment to a calendar date, and already we're getting the effects of seeing the expected liftoff date work as an automatic stabilizer, which I think is the main goal of going to thresholds. Thank you.

CHAIRMAN BERNANKE. Thank you. President Evans.

MR. EVANS. Thank you, Mr. Chairman. Our September policy decision and statement provided a better balance with respect to our policy objectives and was more in line with our January 2012 long-run strategy statement. Our September FOMC statement's indication that purchases will be continued until there is a substantial improvement in labor markets is very helpful. We also included a critical inflation safeguard—namely, the phrase "in a context of price stability." These declarations on unemployment and price stability went a long way toward providing the type of useful forward guidance that explicit state-contingent policies can deliver.

I think additional explicit numerical guidelines over the medium term will help further and are worth pursuing. But I certainly heard a lot of commentary today that is concerned about this. There have been a lot of people who have mentioned the term "qualitative"—"qualitative state-contingent goals." I think at some point I heard something like, "We can get all of the benefits without incurring the costs." It sounds a little bit to me like the way they market fat-free cheesecake. Without a constructive substitute for the real side, along with an inflation safeguard, it sounds to me as though the calendar date is here to stay for quite some time. I just don't understand why all of these same issues aren't going to rear their heads as we get closer to withdrawing accommodation and try to substitute out the calendar date without doing something that actually leads to far more restrictive monetary policy than what we're currently envisioning. So I strongly favor incorporating explicit state-contingent language into our forward policy guidance in order to further clarify our nontraditional policies.

With the federal funds rate pinned at zero for quite some time, explicit economic thresholds are the best game in town. For over a year now, I've advocated thresholds associated with an unemployment rate of 7 percent and an inflation safeguard of 3 percent over the medium term. Now, I am persuaded by the staff's analysis that 7 percent for the unemployment threshold is too modest. In line with our most recent policy statements and FRB/US analysis, a compelling case can be made for 6½ percent or even 6 percent. For a medium-term inflation threshold, I understand that the Committee largely feels that 3 percent is too high. One reason I had argued for 3 percent was a concern about policy reacting prematurely to nonmonetary, transitory variations in inflation. Again, I'm persuaded by the staff's analysis that 2½ percent over the medium term provides a reasonable safeguard against such shocks and parameter uncertainties, such as in our theoretical benchmarks.

Now, a typical concern whenever we introduce a new policy is the public's steep learning curve, and some have talked about that already. In numerous speeches and interviews, I've spoken at length about these types of explicit guidelines, and others have as well. Financial market participants have spent a lot of time digesting these threshold proposals, and it's easy to find already, over the last many months, media explanations and market consulting commentaries to clients about these policies. This particular approach to forward guidance has already been digested by many. So I think markets will get this quickly. Most of the learning curve has already been traversed.

At this point, I'll turn to some of the suggested questions from the staff. On question 2.a., when economic thresholds are used for state contingencies, I think that the calendar date is a helpful addition for the statement. For example, if we adopted the 6½/2½ rule, it would be helpful to point out the expected time frame over which the Committee expects this threshold to remain unbreached. It would also be useful for the minutes to mention that the unemployment margin was the most likely threshold to be breached first. Clearly, this would be associated with a strengthening recovery.

Question 2.b.—which variables? I think unemployment for the real variable is the single best summary measure and will work adequately. The Chairman's press conference can point out the obvious issues related to formulating a consistent reading of developments from a host of economic indicators. Namely, to support the unemployment figure, we would also be looking for above-trend GDP growth; monthly increases in payroll employment averaging above 150,000, at least, to maintain momentum for a declining unemployment rate; and strong consumer and business spending. Of course, the Chairman could also discuss any complications arising from statistical noise in monthly unemployment data. On inflation, I think we should use the projection for average total PCE inflation over the next two years as the threshold, as in the staff memo. Two years should be enough time to smooth through transitory variation in inflation readings due to energy price shocks and other relative price shifts. I do not like simply using a threshold based on trailing 12-month inflation. This would be an unacceptably incomplete guide. Why? Well, suppose we hit the threshold with an uptick in 12-month inflation. In deciding how to act, it would be essential to assess whether the current 12-month rate was an indication that medium-term inflation was unsatisfactory. Is inflation rising or falling in the year following the uptick? It would be embarrassing if we hit our threshold because of a transitory blip in inflation, raised rates prematurely, and then saw inflation fall below our long-run target, all at the same time the economy failed to improve further. In other words, we must ultimately refer to our inflation projections anyway to assess whether the inflation uptick is transitory or persistent. We might as well formulate our strategy in terms of the medium-term inflation projection to start with. So, ironically, there's a transparency argument here in favor of using forecasts.

Turning to what the actual statement would look like, I prefer the first draft statement paragraph prepared by the staff, because the inflation safeguard is in terms of the medium-term inflation outlook. I would also include much of the language in the brackets. The staff memo discusses a number of important communications issues surrounding the description of policy after a threshold is hit. Language in the brackets allows for the possibility that the constellation of indicators that we look at may not lead to a liftoff when a threshold is hit. I also found the last sentence to be important. The addition of the "balanced approach" language is necessary to describe policy after liftoff. Indeed, as we get closer to the time for liftoff, we will have to do some serious thinking about how to portray the post-liftoff path. Will it be policy as usual described by the outcome-based rule, or something slower, along the lines of an inertial Taylor rule? For the time being, the "balanced approach" language should work.

The other comment that I heard a lot—which I, frankly, just do not understand—is a comment like, "What if the natural rate is higher and we're continuing to pursue accommodative policy?" Well, inflation is likely to go higher. That's what all of our thinking about monetary policy is about. If we're pushing more accommodation into the system in an attempt to hit some real-side objective that is unattainable, we ought to be generating inflation. If we're not generating inflation, I'm not even sure what's going on and what the problems are. But if you're an inflation targeter, you would say that this is okay to continue doing because you're not having an effect on inflation. So there's a big disconnect there, and I don't understand why everybody is ignoring the inflation threshold in that regard. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President George.

MS. GEORGE. Thank you, Mr. Chairman. I, too, want to thank the staff for this thoughtful memo. It was helpful to me. Given the communication challenges that the memo highlights, and taking into account the number of changes that we have already introduced into the statement, my support for numerical thresholds is, admittedly, reluctant. Ideally, I'd prefer to return to more qualitative language in the statement and omit the date. I do view removing the calendar date, though, as potentially positive. And changes in the date, I understand, are always open to interpretation—either that the Committee's outlook has changed or that its view on appropriate policy has changed. In that sense, I think thresholds could allow us to replace the date-based guidance and clarify how the Committee's view of the appropriate policy path is related to economic conditions. On the other hand, I would not want to restrict the flexibility of the Committee to respond to unforeseen events, especially if conditions dramatically improve or deteriorate. So escape clauses along the lines of those in the mockups, I think, are important considerations, including financial conditions as factors in the Committee's decision on when to tighten policy. These clauses suggest that the Committee is equally ready both for the possibility of a liftoff before thresholds are crossed and for the possibility of maintaining a fed funds rate close to zero even after thresholds are crossed. And in that sense, I prefer that the language not emphasize the latter. If thresholds were to be adopted, I would prefer that they replace the date-based guidance. If the date were retained alongside the thresholds, I would be concerned that the private sector would continue to put too much weight on the date. In addition, at each meeting, the Committee would have to agree on the date at which one of the thresholds would likely be crossed.

Turning to the specific questions, rather than using only the unemployment rate as a measure of broader labor market conditions, I agree with the language in the mockups making clear that the Committee will consider other factors besides the unemployment rate. While a threshold for unemployment would signal the Committee's intention of continuing to support the economic recovery, it is also important that the Committee guard against inflationary pressures. A buildup of such pressures is always a concern, whether it is due to misestimating the amount of slack in the economy or to a persistent shift in inflationary expectations. The condition in the mockups that longer-term inflation expectations remain well anchored is therefore another important escape clause, in my view.

To make yet clearer that the Committee is guarding against such unforeseen consequences of its policies, I would also prefer to describe the inflation number in the forward guidance as a trigger rather than a threshold. Having an inflation trigger ensures that if inflation rises too much, accommodation will be removed. To capture broad inflationary pressures, I would suggest setting a trigger based on observable inflation rather than simply a forecast of future inflation. My hesitation to rely on an inflation projection is based on the well-known challenges involved in forecasting inflation. In particular, I'm concerned that these inflation forecasts may be based on misestimates of the amount of slack in the economy. In terms of an observable measure of inflation, we might consider the 12-month change in both the headline and the core PCE measures. Policy action would then be based on observing both inflation measures moving above the designated trigger level. By using these two measures as a joint trigger, if you will, it communicates the importance of headline inflation in the Committee's mandate while emphasizing that the Committee primarily responds to underlying inflation pressures and not transitory price movements.

Finally, at this point, I would not favor providing additional guidance on the fed funds rate path after liftoff, because I would question the value of such a commitment to policy so far in the future. Thank you.

CHAIRMAN BERNANKE. Thank you. President Pianalto.

MS. PIANALTO. Thank you, Mr. Chairman. I also want to thank the staff for the very useful and thorough background memo that was given to the Committee. When we began to provide forward guidance about the liftoff of the federal funds rate, I preferred specifying economic conditions rather than a date. After thinking about the issues raised in the staff memo and listening to my colleagues' comments around the table today, I've concluded that agreeing on an effective threshold framework is going to be difficult, and such a framework would entail its own risks.

Turning to some of the questions posed to the Committee, I see little value in publishing both dates and thresholds, because publishing both is very likely to confuse the public. To me, the question is whether we should completely scrap our date-driven language and replace it with thresholds. While the answer may be yes in principle, in practice the devil is in the details. There are many crucial challenges that we're going to have to address before we could switch to thresholds. And my assessment of these challenges leads me to be hesitant about adopting numerical thresholds.

In response to the question of what variables to use, I would choose the unemployment rate as the appropriate proxy for our employment threshold. A more problematic question, though, concerns what inflation measures we should use in our thresholds. As the memo describes, using projections of inflation minimizes the chances of violating the inflation threshold prematurely. However, there is a credibility problem that would be associated with the verifiability of our forecast. And in light of this problem, I would prefer to use backward-looking measures of actual inflation, which have the clear and crucial advantage that they are easily verifiable. To mitigate the chance of prematurely violating the threshold, I would prefer to use core PCE inflation. Still, this is a far from perfect choice. It just seems to be the best among a range of imperfect options.

It would seem prudent to set a relatively lower threshold for the unemployment rate, and a relatively higher inflation threshold, so that we're not led to tighten policy before the thresholds are breached. But generous thresholds can lead to the problem that unemployment or inflation might not have crossed a threshold when we want to tighten policy. This problem is endemic to any threshold. The distinction between thresholds and triggers is therefore important, but conveying this difference to the public may be very difficult. This is especially the case when a threshold has been breached but there's no reaction on our part. How we communicate that thresholds matter, even when they're not being reacted to, is important.

If we're going to proceed with the adoption of numerical thresholds, to me, a reasonable balance, given our objectives, would be 6½ percent on unemployment and 2½ percent on inflation, using the wording that's outlined in the memo that keeps the emphasis on our 2 percent longer-term inflation objective. Regardless of whether we use thresholds or dates, the macroeconomic efficacy of our monetary policy depends critically on what reaction function or rule we use after we begin increasing rates. The staff memo clarifies that from a pure efficacy-of-policy perspective, the big gains are associated with informing the public of the likely path of the federal funds rate after liftoff. A rule with inertia provides the strongest policy accommodation, as it promises to keep rates lower for longer. I personally prefer adopting a guidepost for policy that is similar to the Taylor (1999) rule with inertia. And I do hope that we can make some progress on this issue. But after listening to today's comments, it's undoubtedly going to require some additional discussions. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. I'll echo others in saying that I thought the staff work was truly outstanding on this issue, especially in the short time frame. The first question asked, "Do you think it would be beneficial to express the Committee's forward guidance on the funds rate using numerical thresholds?" I thought the question was a little incomplete, because it left out a phrase that's important: "as opposed to the current approach of using a date." My answer to that is yes. I think it's useful to distinguish three separate issues when thinking about thresholds: desirability, credibility, and communication. The main desirable feature of a threshold policy is, as a couple of people have referenced already, the automatic stabilizer feature of it. For example, take a 6½/2½ threshold policy. If there's a shock that drives unemployment upward, the public automatically knows that we're going to be keeping rates low for longer, and that's going to be immediately providing some easing. We can mimic that by changing the date, but the public does not know ahead of time how we might go about doing that. At the same time, if there's a positive shock and the recovery proceeds more rapidly than we expected, then policy is automatically tightening. Again, they don't know right now how we might change the date in response to that. So I think the automatic stabilizer component of the thresholds is what I find most attractive relative to the date-based forward guidance we're using right now.

In terms of the numbers, Eric referred to an aggressive policy as being one that had a low unemployment rate and a high inflation rate. Well, I don't know what "aggressive" really means. If you look at the simulations, there are welfare gains from going lower in terms of inflation and lower in terms of unemployment. Those are the partial derivatives that you can tease out from the simulations that are available. So the threshold policy of 6 and 2½ looks like the best one under the simulations. And what's the intuition behind that? The intuition behind that is simply, you're conforming more to the dual mandate kinds of objectives that are embedded in the staff's objective function.

I'm taking away from that that a threshold-based reaction function is desirable. At the risk of being somewhat incoherent, I'll try to address some of the concerns that others have raised. There is this concern that the unemployment rate somehow does not capture everything that we're trying to measure in terms of the labor market, and that has to be right. I'll say a couple of things about that. First, I think the public, when it thinks about labor market conditions, really thinks a lot about the unemployment rate. The unemployment rate really bulks very large in their thinking. So if we're trying to communicate that we're keeping policy accommodative until labor market conditions have improved, the unemployment rate really is a very natural thing to be thinking about. But I felt that a lot of the conversation didn't really tangle with the real question, which is, what exactly is the nature of the situation where you'd want to raise rates when projected inflation was under 2½ and unemployment was, say, above 6½? I never got a full grasp of what kind of situation would lead one to do that. For example, in the hysteresis case that President Bullard referred to—and don't get me wrong, I think that is a very real possibility that we have to be thinking about. But the way it's going to manifest itself is by inflation rising. It's going to rise above our escape clause, and we would be, at that point, raising rates.

Can we really get all of the gains with qualitative guidance? Well, right now, the Congress of the United States is offering qualitative guidance about the future of fiscal policy. Either taxes will rise, or expenses will be cut, at some point in the future. I think we can all agree that qualitative guidance in that case is not as useful as quantitative guidance. Many of us have expressed the desire to have more quantitative guidance. The same is true here. Having quantitative guidance offers more clarity to the public and makes monetary policy more certain. In a world full of policy uncertainty, we should be striving for more policy certainty.

Let me move to my next topic, which is credibility. And this gets to the question I asked about: When would we want possibly to raise rates? Why would the Committee want to raise rates when the inflation outlook is under 2½ and the unemployment rate is above 6½? One point is, as President Fisher and President Bullard mentioned, that the Committee has learned that the natural rate of unemployment is actually higher than it currently thought. My own thinking is simply, this Committee is not going to reach that conclusion about unemployment unless the medium-term inflation outlook has risen above 2½ percent. I don't see how we're going to drive ourselves to that conclusion if the inflation outlook looks pretty much the same as it is now, where it's at or below 2 percent.

I think the more interesting issue is the one that President Fisher and President George have both referred to, which is the issue that low interest rates are generating financial instabilities. Our theories are still in infancy in trying to understand this. I found the October 18 memo about financial instabilities comforting, though, on this dimension. We have a wide range of supervisory and regulatory tools available to address financial instability. The monetary policy tool really represents a very blunt one. Do we really think a future FOMC—with unemployment above 6½ and the inflation outlook under 2½—would give up on the employment mandate and possibly give up on the price stability mandate in order to use the blunt tool of monetary policy to combat financial instability, as opposed to using the wide range of supervisory and regulatory tools we have available? I find that unlikely in my thinking.

I've argued that threshold-based reaction functions are desirable, and I've argued that they would be credible as well—that the Committee would go along with keeping rates low when the inflation outlook is under 2½ and the unemployment rate is above 6½. The communication issue is one that's received a lot of attention around the table, and I think there are two key challenges in this regard. The public may view the inflation threshold as a new and higher inflation target. And we just announced an inflation target, so this is very problematic. But part of being an inflation-targeting regime is, at times your medium-term outlook for inflation might differ slightly from 2 percent. Even countries with a single mandate allow for such deviations. We have a dual mandate, and we said we have a balanced approach to those two mandates. So those kinds of deviations—we have to be able to talk about the possibility that inflation might rise at times above 2 percent. Thanks to President Evans for talking about this at length over the past year. I think we have made some progress in terms of communicating on this. But it's just a problem we're going to have to confront at some point anyway. This is a very natural time to talk about it.

Now, another problem that we have not talked about, which I think would come up, is that if we were to choose a 6½ percent unemployment threshold, or even a 6 percent threshold, I believe many members of the public would ask, why is the FOMC planning to raise the fed funds rate when the unemployment rate is still so high? Here again, you just have to emphasize that the rate is really a threshold and not a trigger. And I think the staff has done a good job of helping us with that emphasis, but of course, Mr. Chairman, your press conference would as well.

So that's my rather long answer to question 1. You've noticed I've made no commitments about my economic and policy go-rounds [laughter], but I'll be brief in my answers to the other questions. I would drop the date-based guidance completely. I think it would be confusing to maintain it in the statement. We can rely on a Committee forecast to provide the needed information about how long we anticipate rates to be low with the threshold policy.

I'm in favor of using projected inflation. I think actual inflation is much too variable. Trying to carve out exceptions will create confusion. Another thing is that, frankly, we will be making policy. When we make policy, we do it based on our forecast for inflation. We might as well be articulate with the public about what those forecasts are. I think they're more likely to be accurate if we have to communicate them on an ongoing basis with the public. We'll be held more accountable for the variables and the conditions that we're actually making policy on. I would be, to use Eric's language, more aggressive in terms of the actual numbers. I'd be willing to go to 2½ and 6, as opposed to 2½ and 6½. But I understand that you do not want to use the idea of switching to state-based guidance as a way of sneaking in more accommodation. So from that point of view, 2½/6½ would seem reasonable.

I heard President Lockhart talk about the need for having lots of caveats. I think if we have lots of caveats, then I don't see the benefit of the thresholds at all at that point. We have to be clear that they're thresholds. We can talk about the fact that we're looking at a lot of different economic indicators to actually decide on liftoff, but we are keeping rates extraordinarily low at least as long as these conditions are met. The only caveat I would include would be stability of long-term inflation expectations, which I think is hard to quantify, and so we can't really put a metric on it. But we have to have some reference to it.

In terms of what's going to happen after we have reached liftoff, I thought the staff's sentence on this is beautiful. I wouldn't have anything more on that. So the reference to a "balanced approach consistent with maintaining . . . satisfactory progress"—that's what we're going to do. I think that's a very reasonable description of what we're going to do. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Bullard.

MR. BULLARD. I have one question for President Kocherlakota. Can I interpret what you're saying as strict inflation targeting? That is, would you expect—really, regardless of what you say about unemployment—that everything is going to show up in inflation anyway, so you might as well just say, "I'm going to keep inflation within ½ percent of the target," and not say anything about real variables at all?

MR. KOCHERLAKOTA. Well, from a logical point of view, having an unemployment threshold is just another restriction on the provision of accommodation. So having an unemployment threshold, from a strict logical interpretation, is merely one more set of conditions on keeping rates low. It's actually a rather hawkish provision to have an unemployment threshold. I'll let you think about that. [Laughter]

CHAIRMAN BERNANKE. No, it's true. As long as you really obey the 2.5 percent, you could make the unemployment trigger zero. It doesn't matter. This is just an extra protection on the inflation side, really.

MR. LACKER. Mr. Chairman?

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. But it precludes moving to maintain that and prevent expected inflation from rising above 2½.

CHAIRMAN BERNANKE. Well, remember—I was thinking of President Kocherlakota's original proposal with 2¼, which is about as close as our forecast error to the target.

MR. LACKER. I'm sorry?

CHAIRMAN BERNANKE. President Kocherlakota's proposal at one point was to have an inflation trigger of 2¼, and I'm saying that using projected inflation of 2¼ as your trigger is pretty close to—that's within our forecast error around the 2 percent target.

MR. LACKER. Right. But the unemployment condition precludes moving to prevent the forecast of inflation from moving outside that bound.

PARTICIPANT. That's absolutely correct.

MR. LACKER. That's the point.

CHAIRMAN BERNANKE. No, it doesn't. If you project it to be rising to 2¼ or above, then you tighten.

MR. LACKER. That's not the way it's worded.

CHAIRMAN BERNANKE. Okay. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. I, too, want to thank the staff for their excellent discussion and analysis in the memo. I thought it was very helpful and very useful in clarifying my own views. In earlier meetings, I've argued in favor of a state-contingent policy that was rooted in a more systematic reaction function, and against calendar-date forward guidance. It seems to me that the case for thresholds has two related arguments. The first is, it can help clarify the state-contingent nature of our policy. The second argument seems to be that a use of forward guidance is to communicate to the public that we will not withdraw accommodation too soon, and this, in turn, will boost confidence and yield more stimulus at the zero lower bound over the near term. I actually don't find either of these arguments for thresholds compelling.

I believe the implementation of and the communications required for thresholds could prove very difficult and actually have some very undesirable side effects. To begin with, it's important to realize that specifying simple thresholds on unemployment and inflation is not a reaction function. It's a very incomplete statement of a set of states that may occur. Suppose the unemployment threshold were passed and we acted to reduce accommodation. Now imagine that, unexpectedly, the unemployment rate rose back up above the threshold. What would we do? Would we remove the accommodation, or would we leave it where it is? I certainly can imagine a robust discussion around this table as to what we would do in that case. But the communication of thresholds tells us little about what the Committee would do in those circumstances. On the other hand, suppose we passed the unemployment threshold and we didn't act. What would we explain to the public about how we're going to behave in the future and what the meaning of the threshold was in the first place? In fact, I think the staff memo underscores in a very convincing way that the stimulative effect of forward guidance using these thresholds is determined by the public's expectation not of the threshold, but of how policy will behave after the threshold is reached. We don't specify that post-threshold reaction function and that it's different from what the public currently expects our reaction function to be. We can't rely on the thresholds to have the desired stimulative effect in the near term. Indeed, the simulations assume that we have a well-specified reaction function that's well understood by the public. And my reading of our June discussion of policy rules suggests that we've not reached a consensus on how we'll be setting policy in normal times or after the onset of tightening as we move away from the zero bound. As illustrated by the staff memo, without specifying that reaction function in a way that credibly binds future Committees to abide by it, the threshold strategy becomes questionable as an effective stimulus exercise.

There are other reasons I'm uncomfortable with thresholds. For instance, selecting the appropriate level of any threshold is also quite problematic, as many have suggested. Saying that we will not change interest rates when the unemployment rate is above X percent, or as long as inflation is projected to stay close to Y, would seem implicitly to embed a particular loss function, and perhaps an implicit policy rule, in the statement. Yet the Committee has not agreed on either of those. I think this suggests why President Lacker and others are having trouble coming to agreement on what those thresholds would be. Again, according to the September

SEP, there's significant disparity across the participants' views on what the unemployment rate will be at the time of liftoff, ranging from about 5.7 to 8 percent. Even if we look at only the participants who anticipated that liftoff would occur in 2015 or beyond, the unemployment rate at liftoff ranges from 5.7 to 6.8, and inflation ranges from 1.8 to 2.3. The simulation exercises suggest that setting thresholds consistent with those projections is unlikely to have any significant effect on the economic outlook, because these thresholds are not going to change the public's expectation of the timing of liftoff.

I can see at least three other problems in selecting an appropriate unemployment threshold. First, the selection of an unemployment threshold is complicated by our limited understanding of what's happening in the labor market, and many of you have talked about that. There's a wide diversity of views about the size of the unemployment gap, and we struggle to understand movements in the labor force participation rates, in the Beveridge curve, and in a number of other features of the labor market that we don't fully understand. Even Okun's law doesn't seem to fit very well anymore. It's very difficult to model unemployment and understand its movements, and there's considerable uncertainty about the level of unemployment over the medium run and its natural rate. Again, President Bullard used the case of hysteresis. Given these difficulties, it seems ill advised now to focus more attention on the unemployment rate as a number when the extent to which monetary policy can speed up the decline is highly uncertain. Second, the unemployment rate is a noisy and imperfect indicator of labor market conditions, as many people have said. In the last press conference, the Chairman went to great lengths to say that there are many other aspects of the labor market that would matter. I would think that switching to some point estimate of a particular number could undermine that broader perspective. Third, I think there's a high likelihood that the threshold would be misinterpreted as our unemployment target, even if we tried to say it was only an intermediate target. And indeed, the lower we make the threshold, the more it will be interpreted as our unemployment target.

As many have said, in January we were careful to explain to the public why it is inappropriate for us to quantify our employment goal. Using such a number now would likely prove highly confusing to the public, no matter how hard we tried to explain it. How many times can we be perceived to be changing our framework and still remain credible? Here again, the models that are instructing us to use forward guidance to generate stimulus at the zero bound depend crucially on the central bank's having conducted and continuing to conduct policy in a systematic and transparent manner that is well understood by the public. I'm not sure that we can say we've achieved such a state, and so we may not achieve the benefits it would suggest.

I also see three problems with the inflation threshold. First, how will the public interpret a quantitative inflation threshold in the statement that differs from our 2 percent goal? Will they think we've changed our long-term goal? Is this an intermediate target, or is it an objective we seek to achieve? Some are already interpreting our recent statement as saying that we are putting aside our inflation objective to achieve an unemployment objective. That's not what I think we intend, but it does suggest the difficulty of the communications task we could confront in this effort. Will we lose credibility in the process? The staff memo does a very good job of discussing the pros and cons of using medium-run inflation forecasts as opposed to actual inflation, and that's been a topic we've been talking about. The inflation threshold is formulated in terms of the outlook for inflation over the medium run. One question that arises is, will this threshold actually place this much of a constraint on our policy path? Would we ever publish a medium-run inflation forecast that significantly exceeded our target? What would such a forecast signal to the public about our commitment to the target?

A second issue in setting an inflation threshold is that if we were to set the threshold in terms of our own inflation outlook, then we need to discipline that outlook in some way. One disciplining device that was suggested would be for the FOMC to release to the public its model for projecting inflation. This would require the Committee to agree on an inflation forecasting model. An alternative would be to use private-sector forecasts of inflation, like the SPF or Blue Chip, as the basis for the inflation threshold. However, this contains its own set of potential problems: gaming by the survey participants to try to influence the inflation outlook and thereby influence the stance of monetary policy. Do outside forecasters think that we will act in time to keep inflation near our target? If they do, then they may not forecast rising inflation over the medium term just for that reason.

Third, in setting inflation thresholds based on the outlook for inflation, we need to take into account that we forecast inflation with error. Now, over the past 10 years, the Tealbook has tended to underestimate medium-run inflation. I say this not to denigrate the staff's forecast, but merely to point out that we need to recognize that there are sizable error bands around our forecasts of inflation. How will those forecast errors be perceived by the public? And how will those forecasts be perceived when we do something different from the private sector?

Finally, we need to keep in mind that the Committee's true credibility problem may not be the one that Mike Woodford has in mind. The problem he is trying to solve with forward guidance is how to credibly convey that the Committee is not going to raise rates too soon. But the real problem might be to convince the public that we will not fall too far behind the curve when the time comes to tighten. While market indicators today don't suggest that that's a serious problem, breakevens are near the high end of their historical ranges and noticeably above the Tealbook forecasts. The pressure to backslide on our commitment to price stability might well get more intense over the foreseeable future. Trying to convey that we will be even easier than the public expects may prove to be counterproductive. It runs the risk of undermining inflation expectations and our commitment to price stability.

In summary, I'm not in favor of moving to thresholds at this time, and I am skeptical that we could ever implement them in a constructive and well-communicated way. Communications would be difficult, and any attempts that we might use to manage expectations in this manner could backfire on us. I would prefer that we focus on trying to reach consensus on how we will conduct systematic monetary policy when we return to a more normal economic and policy environment. An important takeaway from the staff is that such an effort is in fact a necessary foundation for articulating an effective policy even when we're at the zero lower bound. In the interim, however, I am sympathetic to President Lacker's suggestion that we move away from dates and triggers and thresholds to describe our reaction function in qualitative terms. While that view may not be shared by my colleagues Presidents Kocherlakota and Williams, our efforts to rewrite the policy statements and craft those statements in terms of a qualitative, as opposed to a mechanical, reaction function is a step exactly in that direction, and I would urge us to consider pushing in that direction to help with this problem. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Mr. Chairman. My views are pretty close to Governor Tarullo's, which I would summarize as, "Good thresholds trump date guidance, which trumps bad thresholds." I think it makes sense to see whether we can try to develop a consensus on thresholds, and I believe that thresholds could be potentially much better than a date for several reasons that others have mentioned. First of all, the date is based on something, and the thresholds help explain, at least in part, what that date rests on. This provides more clarity to market participants about how we are likely to behave in the future. Second, the thresholds based on economic variables are going to be more dynamic, and so if the economy is stronger, the expected takeoff date will be moved in, and vice versa, even without us having to do anything. And, third, with thresholds based on economic variables, we'll get less caught up in the issue of whether to move the date at each meeting. This also has the benefit of us not having to worry about how the market will react to a date change. It takes us out of the process unless we decide to change the thresholds themselves. I would expect that the hurdle to actually changing the thresholds would be quite high. We'd have to have some sort of determination that the economy works in a different way than we thought, but I wouldn't rule it out completely. But I would think that would happen very infrequently, if at all.

So then the question is, okay, what thresholds? And the second question is, what language? How do we communicate that the thresholds are thresholds, not triggers, and that the variables selected are not the targets of policy? The thresholds of 6½ percent on the unemployment rate and 2½ percent on the PCE deflator at a one- to two-year time horizon strike me as about right for several reasons. First, they map quite well to the current date guidance, and I think that's important, because we're actually in a relatively good place right now in terms of how market participants judge our policies, and I don't really want to do something that disturbs this. I think you have to separate the issue of whether the thresholds change expectations about the future path of rates from thresholds versus a date. There's been a little bit of discussion here that's conflated the two, and they're actually quite separate. The second reason is, the unemployment rate at 6½ percent would be low enough that it's unlikely to be prematurely triggered by volatility in the unemployment rate associated with factors such as labor market participation rates or sampling errors, but it's high enough relative to what at least I consider the

NAIRU to be that we would tend to hit it, rather than the inflation variable, first. It would more likely be the binding threshold.

If we picked a much lower unemployment rate, as the Chairman and others have mentioned, we're essentially saying that we expect inflation to move above our long-run objective. So if we had an unemployment rate objective of 2 percent, then clearly we'd be saying we're actually expecting inflation at one- to two-year highs to be 2½ percent. I'm not comfortable with that kind of outcome. I think that would create some risk that inflation expectations might become unmoored. And we can say, "Well, that's a trigger, too," but that would actually be a bad thing to happen, because it would be difficult to put that genie back in the bottle. Two and a half percent seems about right to me on the core PCE deflator. It allows for some noise and variance, but not so much that it looks as though we're putting all of the weight on the unemployment threshold. So I like those two numbers.

I think the language needs to indicate that the Committee may tighten policy before any thresholds are crossed, so I don't view this as a binding commitment. And this can be done by using the words that we've had in the statement before, like "currently anticipates," and emphasizing the importance of inflation expectations remaining well anchored. I think the language that the staff has suggested—"at least until the unemployment rate falls below" the threshold—is vastly preferable to the language "as long as the unemployment rate exceeds 6½ percent," because it emphasizes that the unemployment rate is expected to eventually fall below 6½ percent, that 6½ percent is not a target. So I think that really underscores that it's a threshold, not a trigger.

I would not try to provide much guidance about how policy tightening might occur after the threshold is reached. I think discussion about this is, first, premature. We don't know precisely how we're going to want to proceed, and I certainly wouldn't want to endorse any particular policy rules, especially given the fact that the equilibrium real interest rate may be much lower than some of the policy rules that we have in the Tealbook. Second, I think if we were to talk about what would happen after, we would create confusion about whether the parameters are thresholds or triggers. If we're talking about exit, then people would take it more as triggers than as thresholds, and so it would confuse our message. I think also that if we want to talk about how we're likely to exit, it's better to address that in our exit strategy documents, like what we published in the January consensus statement, rather than in the FOMC statement.

I have one additional point. If we do arrive at thresholds in terms of our commitment to keep short-term rates exceptionally low, we will have a little bit of inconsistency in the statement because we'll have thresholds relative to the liftoff of short-term rates, but we'll have substantial improvement in the labor market outlook with respect to the balance sheet. So that will raise some inevitable questions. Why one and not the other? I think we can manage that process, but we should just be cognizant of it—that there will be a little bit of inconsistency and people will ask about that difference.

Finally, I do acknowledge a lot of the discussion around the table that thresholds might not turn out to be right. With the benefit of hindsight, we may learn things that would make us wish that we'd picked a different set of thresholds. But that doesn't really bother me, because I don't really view the thresholds as an immutable commitment. I view them as, we currently anticipate that these are the right thresholds, and if we get a lot of additional information on hysteresis or labor market participation rates or other things that tell us that the optimal thresholds should be different, then I wouldn't rule out changing the thresholds in the future. I don't think that's likely. I don't think that we're going to get information like that that's going to make us want to change the thresholds, but I wouldn't rule it out categorically. And if we don't rule it out categorically, that undercuts a lot of the arguments about, oh, we can't do this because of all of these problems—that the unemployment rate is not a sufficient indicator of what's going on in terms of the labor market. Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Yellen.

MS. YELLEN. Thank you, Mr. Chairman. Let me first thank the staff for the very detailed and informative analysis in the thresholds memo. I strongly support the use of numerical thresholds to clarify the conditionality of our forward guidance. I've been a fan ever since we discussed the idea in connection with the introduction of the calendar date. When we discussed the use of thresholds around that time, though, several participants argued that we needed to couple them with an explicit statement of our long-run objectives to avoid possible confusion about the difference between the thresholds and our objectives. With the consensus statement now in place, we should strive to provide greater clarity about our reaction function. Threshold language is not a complete reaction function, but I do think it's a meaningful step toward providing more information to the public about the Committee's likely response to future economic developments, and I fervently hope this step is within our reach.

There are two principal advantages, in my view, that thresholds have over our current calendar-date guidance. First, as a number of you—Presidents Kocherlakota and Williams and Vice Chairman Dudley—have all emphasized, spelling out the conditionality of our forward guidance would serve as a kind of automatic stabilizer. Second, spelling out explicit thresholds for action is a way for us to communicate a commitment to keep rates lower for longer, and it provides the public with a way to monitor whether or not we're actually sticking to that commitment as the recovery proceeds and unemployment declines toward more normal levels. I believe it is quite important under current conditions for us to keep rates low for a longer time than implied by policy rules developed during more normal periods, and I'm pleased that markets seem to have interpreted our mid-2015 date and our September statement as confirming that we do plan to stay lower for longer. Since March, dealers' expectations about the likely unemployment rate at liftoff have declined by about ½ point to around 6.8 percent, but it may be difficult for the public over time to discern whether changes we make in the calendar date for liftoff are consistent with their prior expectations about the economic conditions required for liftoff or not. Beyond that, with thresholds, we won't have to keep revisiting our decisions about shifting the calendar date.

I also think providing explicit economic thresholds, far in advance of the time when we're approaching them, may help to keep inflation expectations anchored as unemployment declines but we keep our accommodation in place. So I prefer to replace the date-based guidance in the statement with thresholds that direct attention to the economic conditions we'd need to see before contemplating the removal of accommodation. But I think it would be helpful when the thresholds are first introduced for us to clarify that they are not intended to remove accommodation by stealth. We could achieve that objective by including in our statement, at least initially, a formulation such as, "The Committee currently expects those economic conditions to prevail through at least" some calendar date.

The simulation results in the staff memo do an excellent job of illustrating the consequences of alternative choices of threshold variables and values. The upshot of the analysis, in my view, is that even without any escape hatches, thresholds would be extremely unlikely to lock us into a path that would lead to bad economic outcomes. I'll come back to escape hatches in a second. But for now, let me just say that I view the unemployment rate as the best and most appropriate variable for providing a threshold for the employment side of our dual mandate, and concerning inflation, I prefer projected to actual inflation, given the volatility of PCE inflation. But we would need to find some reasonably straightforward procedure to reach consensus on projected inflation in our deliberations so as not to become completely bogged down on this issue. A recent Board briefing, actually, by Alan Detmeister showed that current four-quarter core PCE inflation is one of the best predictors for headline PCE inflation over the next two years.

I support threshold values of 6½ percent for the unemployment rate and 2½ percent for inflation and agree with Governor Tarullo and with Vice Chairman Dudley that setting tighter thresholds would imply withdrawing accommodation, and that's something I would certainly oppose. In the optimal control simulations regularly included in the Tealbook B, liftoff usually occurs when the unemployment rate is slightly below 6 percent and PCE inflation over the next one to two years is projected around 2¼ percent. I recognize that these results depend on the structure of FRB/US and that optimal control in alternative models can deliver different results. In models with less persistent inflation dynamics, for example, it may be optimal to accept inflation that temporarily runs above 2½ percent. So I view these threshold values as conservative in the sense of being unlikely to cause harm. For that reason, I would want the statement to be crystal clear that these are thresholds and not triggers, that they do not force us to remove accommodation once they're crossed.

In light of our imperfect understanding of the economy and the transmission mechanism, we will, of course, always want to consider whatever variables we choose for the thresholds in the broader context of the myriad of indicators that the staff is looking at, and for that reason I find it sensible to include escape hatches in the statement. The language suggested in this regard in the final section of the memo strikes me as sensible.

Finally, I think we should continue to communicate that we will maintain a highly accommodative stance of policy for a considerable period after the economic recovery strengthens, and I think the language that we have included in the September statement suggests to market participants that we will not be unduly aggressive in tightening after liftoff. I would welcome finding a way to be more specific in the forward guidance pertaining to our policy after liftoff. I recognize that's important to our stance of policy, but even so, I think that thresholds are a valuable step without such forward guidance, and I would not wish the perfect to be the enemy of the good.

CHAIRMAN BERNANKE. Thank you. Governor Duke.

MS. DUKE. Thank you, Mr. Chairman. I also found the staff memos to be very helpful, especially in understanding the potential outcomes from various thresholds. And a number of people around the table, at this and previous meetings, have been quite persuasive in their arguments in both directions. [Laughter] Still, my preference is not to use thresholds. It's still not clear to me that the use of thresholds offers significantly better results than more-general communication in indicating that we plan to hold off liftoff until after the recovery has begun to strengthen. Furthermore, I think it's easy to underestimate the communication challenges that are posed by thresholds, especially if you consider a wider audience than the dealer community, the narrow academic community, and the financial press, whose feedback we hear most clearly and who may be more inclined to pay attention to the nuances of our language. And finally, as someone who has spent most of a lifetime reacting to the level of interest rates and the speed of change, I prefer a solution that gets us off the zero bound earlier and that has a gentler slope after liftoff. Thus, looking at the simulated outcomes under alternative policies in the Tealbook, I prefer the inertial Taylor (1999) strategy as having nearly the same outcome as the extended baseline but with a gentler slope. Having said all of that, my preference is a preference rather than a strong objection. And the memo did help me clarify my thoughts about thresholds should they be implemented.

Taking the questions in turn, if thresholds are implemented—2.a.—I think they should replace the date-based guidance, even in their first use. On 2.b., of the alternatives tested in the memo, my preference would be to use thresholds of 6½ percent unemployment and 2½ percent projected inflation one to two years out. On 2.c., I will admit that I lean more toward the forecast than the commitment side of the date guidance, and I think the date gives us room to consider a range of factors. But much as I yearn for every degree of flexibility possible, including too many escape clauses negates the benefits of the policy that we're trying to implement, especially when combined with all of the exit ramps we had to provide to reach agreement on LSAPs. So if we do adopt thresholds, I don't think I would indicate that the Committee might tighten policy before the thresholds are crossed. Rather, I would view any such decision as something to be explained if and when it happened, or language that could be added if the possibility became more likely. For 2.d., along the same lines, I think too much discussion about the likely actions after the thresholds are reached would have many of the same difficulties, not the least of which would be agreement as to what those actions might be and how to articulate them. Combining my responses to 2.c. and 2.d., I find it hard to see how our "kinda/sorta/maybe" approach, such as articulating thresholds but modifying them to say that we might act before they're reached or that we might not act after they're reached, depending on other measures that aren't specified in the threshold—how is that preferable to date guidance that we might or might not move in response to incoming data, and that might be a forecast or might be a commitment? Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Raskin.

MS. RASKIN. Thank you, Mr. Chairman. I noticed that the way we're discussing quantitative thresholds is as a matter distinct and separate from the discussions about the current forecast and economy. Presumably, we're having these discussions before the usual go-rounds because we want to probe their value as a standalone proposition. This makes good sense from a purely analytical perspective. But in doing so, we shouldn't lose the perspective of timeliness and the fact that it makes a very big difference—it is consequential—when we choose to implement a threshold approach.

From the perspective of what was done in September, I'd argue now, as I did then, that we haven't completed our policy job. We started but didn't finish. What we did in September was to make policy decisions that essentially cut off the lower tail of outcomes, or, to state it in the vernacular, we promised monetary policy support that could cushion the blows to the economy that would otherwise hold back economic growth. But what we haven't done yet is to define for markets and the public the economic conditions that, when we see them, imply that this lower tail of outcomes can be considered improbable and that the extraordinary support can be removed. We've taken the first step in clarifying our policy, and market participants seem to have understood it fairly well. However, the longer we wait to adopt explicit thresholds, the higher the likelihood that our forward-rate-guidance message will become muddled.

To me, the threshold approach is beneficial, in response to the first question, because it positions us ahead of the muddled message possibility, also known in my notes as the MMP. [Laughter] A threshold approach avoids the muddled message possibility by completing the forward guidance. It explains the endpoint of the zero lower bound. It spells out the conditions under which the Committee says, "Now will be the beginning of a new phase, the beginning of a new conversation. And the conversation will be that we're approaching the end of the era of the low federal funds rate, and we can tell you when, approximately, attention will shift to a discussion of the path for the funds rate liftoff." So I think that the thresholds will be more beneficial the sooner we adopt them. The longer we wait to do it, the closer we come to a calendar date that must get moved either in or out. Moving the calendar date out is usually taken by the public as an overly negative signal about the medium-term outlook for the economy. Moving the calendar date in, when stronger-than-expected information arrives, runs the risk of undercutting the value of the information contained in the forward rate guidance.

More generally, if we decline to clarify our thresholds, we face the MMP, the muddled message possibility. A vague ZLB leads us to an MMP. People will be confused about what the thresholds are, and speculation will likely fill that vacuum. Bloggers and editorial writers and others will likely start to offer opinions about what those thresholds are and should be. It seems to me that by allowing others to frame that discussion, we, as a collective Committee, are shirking our responsibility to communicate clearly. Confusion about our thresholds could also affect inflation expectations. If outsiders begin to believe that we have a lower inflation threshold than we do, then when inflation moves slightly above that level, there might be some concern that we've lost our resolve or our ability to keep inflation in check, thereby raising the possibility that inflation expectations lose their anchor. If, instead, market participants fully understand that we're merely temporarily allowing inflation to rise as long as it remains below the threshold, inflation expectations seem more likely to remain steady. Stated differently, what happens if we get to a point close in time to the calendar date and unemployment is moving down, but is still above 7 percent, and the one- to two-year outlook for inflation is at 2 percent? Markets are in the dark about what the Committee projects and intends. So one possibility is that markets believe that the Committee needs to raise the fed funds rate and that the Committee is underestimating the inflation outlook. Markets won't understand because the Committee never told them that we're seeing the inflation outlook at 2 percent. It's possible that in this situation, markets lose the sense that this Committee is committed to price stability, and this loss in credibility itself unhinges inflation expectations, forcing the Committee to defensively raise the federal funds rate. In essence, this would let the market's perception of inflation drive a policy choice that is decoupled from underlying economic conditions. Why is this scenario not a real possibility that we should seek to avoid?

So, to the questions:

1. Yes, it would be beneficial to express the Committee's forward guidance on the funds rate using numerical thresholds, as couched with the qualitative language that appears already in the draft.

2.a. The thresholds should replace the date-based guidance. Date-based guidance doesn't help the public understand the rationale for our forward guidance to the same extent as thresholds would.

2.b. Yes, the thresholds could explicitly, quantifiably reference many different variables. But to foster simplicity in communications, there's a virtue to choosing the two variables that our mandate requires us to look at—namely, proxies for employment and price stability. The staff memo, I think, makes a concise case for looking at projected inflation between one and two years ahead. Of course, this raises the challenge of how we would agree on an inflation outlook. For that reason, we may want to consider referring to forecasts made by an outside and independent source, such as the Blue Chip consensus forecasts or the Survey of Professional Forecasters. As for employment, the unemployment rate seems to be the most reliable guide to resource slack. However, I think the additional language in the draft regarding the "pace of improvement in labor market conditions" and looking at "other indicators of economic and financial conditions," does provide the Committee with the ability to make a better decision about whether the threshold has been crossed. If the principle at stake in the use of thresholds were one merely of communication, rather than one of added accommodation, we would set the thresholds at levels that align with market expectations. In that case, it makes sense to establish thresholds that match market views of when the federal funds rate will begin to be lifted. The dealer survey currently shows that date to be late 2015, at which point unemployment is projected to be 6½ percent and projected inflation is not higher than 2½ percent. So I would set these thresholds to align now.

2.c. The sentence beginning with, "In determining the time horizon over which it maintains a highly accommodative stance of monetary policy," is the sentence that communicates that the Committee may tighten policy before any thresholds are crossed.

2.d. The staff memo, I think, convincingly underscores the fact that thresholds address only the passage from a low federal funds rate environment to an environment of discussion about beginning the process of raising rates. The thresholds say nothing about what happens afterward. As the memo highlights, whether thresholds provide additional accommodation depends sensitively on what path the fed funds rate is going to follow after liftoff. I think that trying to agree on a medium-run path for the funds rate after liftoff would make it very difficult for us to reach consensus on our policy decisions. By contrast, I think the "balanced approach" sentence at the end of the draft reiterates what we did agree on in our consensus statement. Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Stein.

MR. STEIN. Thank you, Mr. Chairman. Let me start by adding my thanks to the authors of the memo on this topic, which I thought was really very insightful; it helped me a lot. My bottom line is, I continue to see the intellectual appeal of numerical thresholds, and I still have an open mind about them. But I will say that between the memo and conversations with various people, I think I'm starting to better appreciate some of the limitations as well. Also, and importantly, I feel as though we succeeded beyond at least my own expectations with our reformulation of the guidance at the last meeting in that we were able to quite effectively communicate a shift in our reaction function without relying on numerical thresholds. So I guess that takes away some of the urgency that I might have otherwise felt.

On the assumption that we do go forward with trying to think about design, the first fork in the road I came to was the question of, are we trying to develop a commitment technology or a communication strategy? If you read much of the academic literature, you find that the payoff is very much about commitment. The payoff comes from being able to essentially bind yourself to something that you would be tempted to renege on ex post. Or a weaker version of that would be, you can't literally bind yourself perfectly, but you can set up costs in terms of loss of reputation if you go back on your commitment. Now, I think if this is your framework, if you're going for commitment of this sort, I think you're naturally going to be drawn to relatively sharp, verifiable formulations—go easy on the escape hatches. For example, observed inflation, as a number of people have pointed out, is better than our own forecast of inflation because it's a verifiable item and you can see when we've reneged in some sense. So the principle here is, if you're going for commitment, you can't "tie yourself to the mast" with the kinds of "loose ropes" that leave you a lot of wiggle room.

Now, of course, I think commitment has its downsides, as the memo points out, in the sense that you lose the ability to adjust to a variety of omitted contingencies, if you will. I agree with others who've pointed out that, "I don't find these errors around the structural rate of unemployment to be a super-compelling worry, because that's exactly what the inflation threshold is there for." On the other hand, there's other stuff not in the model. In my mind, the financial stability issues are important. We don't really understand them all that well, and we're talking about a pretty long horizon, so I'm concerned. I agree with President Kocherlakota that monetary policy would be a blunt tool, but it needs to be compared with the other tools in our toolbox, some of which may be blunt or untested or otherwise not up to the job. So I guess I prefer the idea of keeping a little bit of an open mind. Moreover, I think one can take only so much comfort from what a model can tell us about what we give up with commitment, because what you give up is the ability to react to unforeseen contingencies, and that's the stuff that's left out of the model almost by definition. So there's a little bit of a bias that one wants to be wary of there.

An alternative view—and I think this is the view that Vice Chairman Dudley was expressing—is that we're not really going for commitment, but rather, we have a time-consistent reaction function, and we're just trying to communicate aspects of this reaction function as clearly and credibly as possible. So I'm more comfortable with this formulation. Now, in this case, I think numbers can be helpful. At the same time, they don't strike me as necessarily indispensable. If you do use them, it would make sense to use them in a somewhat looser way. I don't think that the imperative to use verifiable constructs is as strong, so you could, for example, think about inflation forecasts as opposed to inflation. And I think it's interesting—again, my views on this have been strongly colored by how the market reacted to our September statement—that with regard to open-ended QE, where we're using effectively a qualitative reaction function, it was apparently extremely credible—at least directionally credible, maybe not the subtleties of it. It was quite credible in a verbal sense. So that's just worth bearing in mind. Again, I'm still open to the idea, although with a little bit of skepticism. In designing it, I do want to be wary of a situation where we use numbers in a way that doesn't really add much to where we are now already—which is, we've made considerable progress in terms of how we communicate—and, at the same time, set ourselves up to bear costs in terms of lack of flexibility. So I think it's important to strike that balance. Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Powell.

MR. POWELL. Thank you, Mr. Chairman. Where I started with thresholds after reading the old memos a couple of months ago was that my tentative position was fairly skeptical on the grounds that I thought they'd be very hard to agree on, and that the current system was actually working pretty well. That was greatly strengthened by the reaction in the market to what we did in September, which, again, as Governor Stein was saying, supported the use of qualitative guidance and the date. Then I met the memo, and—let me make it unanimous—it's an extraordinarily good memo. I was able to persuade myself over the weekend in reading the memo, that quantitative thresholds are both doable and worth doing. And then I have to say that the conversation today—this is the first time I'm hearing all of these arguments—has moved me significantly back to where I started. So thanks for that. [Laughter]

To be a little more specific, I do agree that as a theoretical matter, the use of the projected liftoff date, without explanation of a reaction function, is inelegant. Like others, I see difficult problems of implementation, and to me, they add up to reasons to go slow at a minimum. The first is that the timing just seems odd, as others—most recently, Governor Stein—have mentioned. The combination of the crude liftoff date and the language in the statement convinced the market of a liftoff date that is outside any reaction function that appears in the Tealbook B, for example. So it's working. Why make a change now? We also know that 2½ percent and 6½ percent—which make good sense to me, as I'll come back to in a second—provide little or no accommodation. So the benefits could be quite modest in terms of either transparency or pre-commitment, given what the market is already assuming. I guess I would say that while the date may be dumb, inelegant, unattractive, unpopular, and out of style, it's working right now. So I don't know why we're in such a hurry to throw it over the side.

A second, related question is whether, for example, 2½ and 6½ percent are really a stable equilibrium, or will we change our minds fairly soon? There, I would say that it strikes me as fairly likely that we will. I know that we have. Most of this last year, I've been an observer from the outside, but it seems to me that the Committee has moved on which Taylor rule is the most appropriate. It seems to me only appropriate to do so in the face of evidence about the development of the economy and its reaction to our policy, and in relation to the natural rate of unemployment. Views are, and should be, evolving on that. So I suspect that 2½ and 6½ percent, particularly the employment threshold, will not prove to be a stable equilibrium. And I guess I would take issue with Vice Chairman Dudley's comment that we can move them—I don't want to characterize your comment. I would just say that it seems to me there would be real costs in being wrong about that. These are numbers that we put out there; we own them when we put them out there. To change them in any way in the near-term, I think, would be problematic and costly from our standpoint.

Third, the communication points were well made around the table. I do think this will be confusing to people who spend fewer than 50 hours a week working on monetary policy—that is, most of the public. "Is it a trigger? How does it relate to 2 percent? I thought you told us that you don't control employment, that that's a supply-side issue." I just don't know how you answer those things. It could well be confusing to the public.

Finally, in terms of the post-liftoff reaction function, I do think it's unlikely that we could agree on a post-liftoff reaction function that would kick in, in a credible way, in the middle of 2015. And I don't think it's likely that such an agreement would hold for very long.

Bottom line: I hold these views tentatively because I feel as though I'm still evolving on this, but I believe there may be some benefit, some merit, in quantitative thresholds. It's something we ought to take slowly, particularly since there's no urgent need to make a change and no obvious net benefit in doing so in the short term.

So, going to the questions—question 1 asks, would it be beneficial? I've written this word down, and I will live with it. The word I've written down is "maybe." I'll stand by that. [Laughter]

Should we combine the thresholds with the dates? I would say that if we can't replace the dates, let's not do it at all.

On the variables—regarding inflation, it seems to me we can solve the inflation problem. And I understand that there are difficult issues around this, but I would think it's got to be a Committee projection. To me, it should be headline expected inflation, as indicated in the memo. The difficult question, of course, is, when we disagree with the public, we're just going to have to explain ourselves, and it's going to have to be credible. I thought about that, and I think it's probably manageable. Unemployment is just very tough. For one thing, as President

Plosser was pointing out, there are just so many aspects of the labor market that we need to consider. I also think we're going to be read as setting a target, when we just got done telling the market that we don't have a target—or it's not really NAIRU; it's yet a third thing. It's very hard to explain that. And even more important than that is, it isn't just the two factors; it's also all of the other factors that we should be considering. If you're going to do this, I think you wind up adding on this factor and that factor and the other factor. At the end of the day, you lose the point of commitment in the first place. So I guess I would say that it's problematic. In terms of the actual numbers, I do think 2½ percent and 6½ percent make sense, if you could get over all of the other hurdles, for reasons that have been well articulated around the table. I guess that's where I am for now. Thank you very much, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you very much. Well, thank you for this discussion. At least we agreed it was a good memo. [Laughter]

MR. TARULLO. Mr. Chairman?

CHAIRMAN BERNANKE. Yes. Governor.

MR. TARULLO. If I can enter Arrow theorem country just for a minute here, I heard several of our colleagues express a preference for qualitative thresholds, but I want to be sure I understood their position. Is your position that, given that the effective choice may be or already is between the date and moving toward quantitative thresholds, you would prefer to stick with the date? I think I heard Jeff, Charlie, Jim, and Richard for qualitative thresholds.

MR. LACKER. How about neither?

VICE CHAIRMAN DUDLEY. You've got to pick something.

MR. TARULLO. Yes, if you've got a choice of two things—that's why I said it's Arrow theorem country in a way; we've got the date, and if we're not going to change from the date, we're going to stay with the date. I think I heard all four of you saying implicitly you prefer staying with the date rather than going to quantitative thresholds, but I wanted to be sure I understood.

MR. LACKER. I'm less averse to the date than I am to thresholds.

MR. TARULLO. Yes, that's what I thought. Okay. And that's true for all four of you?

MR. BULLARD. Yes, and I'll just add one thing, which didn't really come out around the table here: On the quantitative easing side, we already have the language that I would prefer to have also for the interest rate. So I would say that you could align the two and then have it be the same way. I think that's something that didn't come up a lot here, only a little bit.

MR. PLOSSER. To put in my two cents' worth, I would rather have us move toward the qualitative nature describing our reaction function, keep the date for now, and gradually transition to the point where we could substitute the qualitative reaction function and get rid of the date. That may take some time, but I think that's where we ought to be trying to get to, not to thresholds.

MR. FISHER. I think, Danny, since you mentioned me as well, that the Chairman did a pretty good job in the press conference. He said we know we're not there yet, but he didn't lay out a number, and to me that's a qualification. It's a qualitative way to express ourselves. I want to refine that somewhat. We're trapped with the date, and then we keep having to move it out. Or we're going to try to move it in, and it sends a signal. Everybody has talked about that. I just don't think that having these specific numbers is a better outcome than what we already have. I don't like what we already have, but I don't think it's a better outcome.

MR. TARULLO. That's what I was trying to discern.

MR. FISHER. And I want to ask about the time line here, Mr. Chairman, but I would urge us to go very slowly, as many people have said at this table. In contemplating this thing, I don't rule it out, but in the meantime, what you said in the last press conference was pretty good at giving a sense that we're not there—we're thinking about the unemployment issue. But that's as far as I would wish to go right now.

MR. TARULLO. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. President Evans.

MR. EVANS. Sensing the warm feeling for qualitative state contingency in the language in our current statement about substantial improvement in labor markets, I feel similarly about that, but I want to point out that I would guess most people's expectations were that we would stop asset purchases before we got to the point where we'd want the funds rate to lift off. So we need a second qualitative description of "substantial" substantial improvement in labor markets.

CHAIRMAN BERNANKE. Okay. I think most people agree that in principle, the state-contingent approach is better. What I heard was a continuum: people who want a qualitative approach to those who would prefer the quantitative approach. Interestingly, regarding those who wanted the quantitative approach, the one thing that I thought there might be a lot of debate about—the numbers—actually, most people were okay with those particular numbers. I understand there's now a wide range of views. I think what we ought to do is huddle again with the staff and see if there are ways to provide the qualifications; the additional information; and the other kind of material that can satisfy some of you who are concerned about the rigidity, the lack of clarity, whatever, associated with this kind of approach. I think the best way to do it is to try to write something down and then see how people react to it, but we'll try to do that in the intermeeting period. President Fisher.

MR. FISHER. May I ask, Mr. Chairman—in terms of your own concept of the time line of conducting and maybe completing this discussion, what do you have in mind?

CHAIRMAN BERNANKE. It depends on what the reaction is.

MR. FISHER. So that would be the next step, and then we'd see.

CHAIRMAN BERNANKE. Right. That would be the next step, but we'll try to do that well in advance of the next meeting.

MR. FISHER. Thank you.

CHAIRMAN BERNANKE. Okay. Why don't we take a break and come back at four o'clock? Coffee is available.

[Coffee break]

CHAIRMAN BERNANKE. Okay. I hope everybody is refreshed. Financial developments—let me turn to Simon Potter. Simon.

MR. POTTER.[2] Thank you, Mr. Chairman. Financial market conditions in the U.S. have eased over recent months in response to the anticipation and then announcement of policy decisions at the September FOMC meeting, some recent improvement in domestic economic data, and a reduction in the perception of tail risks in Europe. The combination of these developments has led to declines in real Treasury and mortgage rates and higher prices for risk assets. However, a number of concerns remain forefront in investors' minds, especially challenges in the euro area but also the approach of the "fiscal cliff" in the U.S. and the outlook for emerging economy growth.

As seen in the upper-left panel, the anticipation and then introduction of new MBS purchases, the extension of the forward policy guidance, and the expressed intent to maintain a highly accommodative stance of policy as the recovery strengthens prompted large and at times diverging movements in real and nominal 10-year Treasury yields. The initial rise in nominal yields following the announcement of these accommodative policy actions is at first glance somewhat surprising. However, an increase in inflation compensation more than offset the substantial impact of policy on real rates, leaving nominal yields higher on the period. By early October, the 10-year real rate had fallen to a new low of minus 88 basis points before rising in response to stronger-than-expected economic data and somewhat improved sentiment toward Europe.

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

The announcement of an asset purchase program would be expected to lower real Treasury yields at longer maturities. Further, the signaling in the statement regarding the path of short-term rates should also impact yields. The pattern of forward rate movements over the period suggests that both of these factors were at play. As shown in the upper-right panel, immediately following the meeting, shorter-dated forward rates exhibited the sharpest declines, suggesting meaningful signaling effects on the path of real short-term rates. On net over the period, intermediate and longer-dated forward rates exhibited large declines, likely reflecting increased expectations for total MBS and Treasury purchases.

Many investors have described recent FOMC communications as a change in what they call the Committee's "reaction function." While this term is used somewhat loosely by market participants, some perceive a greater willingness by the Committee to tolerate above-objective inflation temporarily in order to generate more-rapid employment growth. Others express this as a more symmetric approach to the dual mandate, in which the Committee would take deviations from the unemployment side of the mandate into greater account when addressing increases in inflation above the 2 percent objective.

The question of the market's perception of the Committee's current weightings on unemployment and inflation was addressed in the Desk's primary dealer survey. We asked respondents for the unemployment rate that would prompt an increase in the target rate, given PCE inflation rates of 1, 2, and 3 percent. We have now asked this question three times: first, following the introduction of the calendar guidance, and then following the two subsequent changes to the guidance. As seen in the middle-left panel, in the most recent survey, the locus of points again shifted lower, indicating that respondents believe that for a given level of inflation, the Committee is now willing to wait for lower levels of the unemployment rate before increasing rates.

Perhaps reflecting evolving interpretations about how the Committee views the growth and inflation tradeoff in the coming years, breakeven rates of inflation were volatile in the days following the September meeting. As seen in the middle-right panel, inflation compensation temporarily rose by a considerable amount. These peak levels of breakeven inflation were toward the higher end of the historical range. In contrast, the probability of sustained above-objective inflation, shown in the last two columns of the table, did not move meaningfully, if at all, over the intermeeting period.

Your next two panels turn to the market reaction to additional MBS purchases. The lower-left panel shows the two-day change in MBS spreads around key announcements, plotted against the change in LSAP expectations. The MBS spread response around the September FOMC meeting, shown in red, was notably larger in magnitude compared with prior MBS purchase events. This likely was the result of initial investor expectations that the significant size of Desk purchases would lead MBS to become quite scarce in the market, particularly as the MBS market has continued to contract modestly in size.

As seen in the final panel of the exhibit, the secondary mortgage rate, as measured by the Freddie Mac 30-year current-coupon yield, declined to an all-time low of 1.52 percent during the period before retracing along with Treasury yields. The primary mortgage rate also declined to an all-time low, though relative to the secondary-market rate, the move lower in the primary rate has been muted. This is likely due to mortgage industry consolidation, ongoing capacity constraints at the remaining originators, tight underwriting standards due partly to putback risks, and the most recent increase in agency guarantee fees. Despite these limiting factors on the amount of pass-through, the declines in the primary rate have prompted an increase in refinancing activity.

Your second exhibit begins by examining the effects of the recent policy actions and announcements on a broader range of assets. As shown in the second column of the upper-left table, spreads to Treasuries for a range of credit assets declined on the day of the FOMC. Of course, the movement during this small window is not a complete measure of the impact. First, some policy action was anticipated, and as seen in the first column, was likely reflected in asset prices in advance of the meeting. Second, investors have continued to adjust upward their expectations for the total size of asset purchases. This has likely contributed to the further narrowing of spreads observed over the full intermeeting period, shown in the last column. Investors have also cited other factors contributing to investor demand for credit instruments, including the recent improvement in economic data and greater optimism toward Europe.

Another factor contributing to narrower spreads for credit instruments may be the low net supply of such instruments in the market. Some investors have observed that after adjusting for anticipated Federal Reserve purchases of agency MBS and assuming no substantial pickup in economic activity, net issuance of credit instruments for the remainder of this year and in 2013 is expected to be negative. This can be seen in the top-right panel. This has led some market participants to view the new program as likely to have persistent effects on rates and issuance.

Similar to credit markets, domestic and most global equity markets experienced a significant rally ahead of the September FOMC meeting mainly due to the successful announcement of the ECB's OMT program. This can be seen in your middle-left panel. Those earlier gains reflected investor perception of reduced short-term tail risks in Europe and growing expectations for more-accommodative monetary policy across a number of central banks. Since the September FOMC meeting, global equities are little changed, on net, as the positive effects of the policy decision were offset by a moderation in earnings growth forecasts and some negative earnings surprises in recent days. In contrast, the Shanghai Composite Index remains near levels last seen in early 2009, and investors continue to debate the extent to which China's pace of growth is slowing. Steve Kamin will discuss this more in his briefing. Overall, despite broad gains in risk assets, investors continue to note a number of lingering uncertainties. These include euro-area stabilization efforts, the broader global growth outlook, and the looming fiscal cliff here at home.

As seen in the middle-right panel, these uncertainties have served as a crosscurrent to the more accommodative stance of U.S. monetary policy on the broad dollar, leaving the index little changed on the period despite a roughly 1 percent decline after the FOMC meeting. Actual and anticipated accommodation by a number of other central banks also likely served to limit the extent of dollar depreciation, even as investor expectations for MBS and Treasury purchases have increased over the period.

The bottom panels in this exhibit address two of the main risks that market participants are focused on. Investors are closely following remarks of euro-area officials for indications of whether and when Spain will request official aid. Most investors appear to expect that Spain will seek support before the end of the year. However, there is an appreciation that without market pressure, the urgency to do so might be limited. As seen in the bottom-left panel, Spanish and Italian forward spreads to Germany have not narrowed meaningfully since the announcement of the OMT program. Moreover, there remains a sizable divergence in the forward spreads for these sovereigns, consistent with investor belief that Spain faces a more challenging adjustment than Italy.

Lastly, despite receiving significant attention in the investor and business community, there is little evidence that risks regarding the fiscal cliff are having a meaningful impact on asset prices. As shown in the final panel, at least one measure of policy uncertainty has risen in recent months but has diverged from its more typical relationship to the VIX index. In addition, equity prices of firms with greater revenue exposure to the federal government have only modestly underperformed the S&P 500 since the spring. The muted asset price response thus far suggests a significant risk of sharp declines in risk assets should the odds of an adverse fiscal cliff event increase materially.

Your final exhibit turns to developments regarding recent Desk operations and expectations for the evolution of the balance sheet as reported through the Desk's primary dealer survey.

Over the intermeeting period, the Desk purchased $96 billion in agency MBS under the new flow-based purchases and the ongoing reinvestment program. As expected, the combined purchases represent a sizable proportion of the gross issuance activity in the TBA market, where the Desk's purchases are concentrated. The Desk continues to concentrate purchases in securities that are newly issued in the TBA market, because this market is the most liquid sector, and thus it is easier to purchase securities in large size without significantly impacting market functioning. The TBA market is also used by originators to sell forward most newly originated loans, and so it is closely tied to the primary mortgage rate.

As shown in the upper-left panel, through June 2013 we anticipate that our total purchases will average about $76 billion per month and remain a sizable portion of the supply of newly issued securities in the TBA market at just over three-fourths, a share similar to that purchased during the first MBS LSAP. However, market participants have noted that mortgage origination dynamics have changed significantly since that time, so the Desk's current footprint in the market may be a greater risk to market functioning. For example, the agency MBS market saw record growth during the first LSAP but is currently shrinking modestly in size.

Given the size of purchases, the Desk has made some adjustments to its purchase allocation. As shown in the top-right panel, we have increased our purchases of MBS in the 15-year sector to more closely reflect issuance. Though these securities have shorter durations, the shift should alleviate some pressure in the 30-year sector. As rates have declined and originators have produced lower-coupon mortgages, we have also shifted the allocation of purchases to newly issued securities with lower coupons, including the newly issued 2.5 percent coupon.

There were some strains in the market immediately following the September FOMC announcement, with bid–asked spreads temporarily widening. In addition, as shown in the middle-left panel, implied financing rates for dollar roll transactions fell immediately following the FOMC announcement. These rates suggested that investors initially expected MBS to become quite scarce, reflecting expectations for sizable purchases amid low origination and uncertainty regarding the securities likely to be purchased. However, as expectations for purchases and origination firmed, trading conditions and dollar roll implied financing returned to more normal levels.

Because we purchase MBS on a forward basis, we have not yet had a monthly settlement cycle that fully incorporates the additional purchases. Thus, it is too early to gauge the overall impact of the purchases on market functioning. As shown in the middle-right panel, we anticipate that the size of settlements will increase in November and reach around $75 billion in December. Should implied financing rates decline substantially as settlement nears, the Desk may have to increase dollar roll activity, which should alleviate some pressures by effectively postponing the settlement of some of our purchases to future months. We will continue to monitor conditions in the MBS market closely.

The bottom panels report on expectations for an increase in the balance sheet from the dealer survey. The lower-left panel shows the dealers' expectations for the size and composition of balance sheet expansion through mid-2014, when the median dealer forecast for balance sheet size reaches its peak. The median dealer expects agency MBS purchases to total $600 billion and Treasury purchases, not including remaining purchases under the MEP, to total $540 billion, for a total of about $1.1 trillion in asset purchases. This represents about a $150 billion increase compared with the flash survey conducted immediately after the September FOMC. The increase reflects a firming of expectations that Treasury purchases will continue in 2013.

With flow-based purchases, investors are uncertain regarding the total increase in the balance sheet. To attempt to measure this uncertainty, we asked the dealers to assign probabilities to different outcomes for the level of the SOMA portfolio at the end of 2014. As seen in your lower-right panel, the probability distribution of dealer estimates is centered on $3.5 trillion to $4 trillion. The distribution indicates that dealers assign a relatively high probability to the asset purchase program exceeding their modal forecasts.

The median response for the length of purchases is about one and a half years. The anticipated length is driven by dealers' expectations of the FOMC's definition of a substantial improvement in the labor market outlook, and the prospects for realizing this improvement in the years ahead. In the survey, we asked dealers what they believe the Committee would consider a substantial improvement in the labor market outlook. The results of such free-response questions are always difficult to summarize. In the upper-left panel of the last page, the word cloud shows the prominence of the unemployment rate in the responses but also a range of other labor market indicators. The upper-right panel summarizes the quantitative information in the responses. Many dealers believe that the FOMC would look for payroll growth of around 200,000 per month, for a period of roughly half a year, and a decline in the unemployment rate to between 6.5 percent and 7.5 percent. Bill English will examine the relationship between dealer unemployment forecasts and their estimates of the timing of the ending of purchases in his briefing.

Finally, we also asked about the pace of purchases going forward. The median dealer expectation is for the current pace of long-term securities purchases to continue after the December meeting. As shown in the middle panel, dealers place high odds on the size of the purchases remaining unchanged over both six-month and one-year horizons, with substantially greater probabilities assigned to an unchanged pace of MBS purchases than Treasury purchases. Several dealers noted expectations that the pace would taper ahead of the conclusion of the program, and some also mentioned that market functioning could factor into adjustments to the pace of MBS purchases. Thank you, Mr. Chairman; that concludes my prepared remarks.

CHAIRMAN BERNANKE. Thank you very much. Questions for Simon? Governor Duke.

MS. DUKE. Simon, I'm looking at panel 13, the projections of MBS issuance. In talking to a number of the originators, I learned that they expect this refi wave to peter out toward June. What are your expectations in terms of refinance volume and new purchase volume, and how do you see that unfolding? What would that mean for our purchases?

MR. POTTER. Our expectations are shown here in 13. That's based on Tealbook assumptions of where interest rates will be, so that might differ a little bit from what some people in the market expect. We're reasonably confident three to six months ahead in what the issuance will be, and then issuance starts to decline. We looked at this quite a lot in the intermeeting period. We were surprised in September about how much reinvestment we had, and that was because refis were a little bit stronger. I would imagine that we'll know more early in the year. It partly depends on how much traction the policy will have and what happens in the housing market.

CHAIRMAN BERNANKE. President Evans.

MR. EVANS. Thank you, Mr. Chairman. Simon, in chart 4, on inflation expectations, I have a question that I could have asked years ago. I'm never quite sure what the answer is. How does the five-year, five-year-forward breakeven inflation rate compare with our long-run inflation objective of 2 percent on headline PCE? I ask in part because I've read commentaries of various people who try to relate the two, and wonder how it's calibrated. I'm going to guess that one answer is, it's the CPI, not the PCE. Then the other is, it's inflation compensation versus inflation expectations, I think, in spite of the heading on this chart. Any information you could provide on that would be helpful.

MR. POTTER. Well, thank you for that. The heading of the chart should have said "Inflation Compensation." It is a CPI-linked instrument that we use. So you could think of the inflation objective mapping from the 2 percent PCE to somewhere between 2.3 and 2.5 percent. Inflation compensation means that this is not just inflation expectations; it includes an inflation risk premium. How you look at that inflation risk premium is important to understand. For the history, we excluded the period during the financial crisis because we felt that was biased downward a little bit. So the five-year, five-year forward got reasonably high but then came back down, and the 2.81 is not unusual if you plotted the time series.

MR. EVANS. So for the translation, you'd back off at least—

MR. POTTER. Put 2.3 to 2.5, and then you have to decide what the inflation risk premium would be.

MR. EVANS. Any thoughts on the order of magnitude or the time variation of the risk premium?

MR. POTTER. I think the Board staff and staff in New York have models where they try to estimate the inflation risk premium. I believe what we found is most of this movement is in the inflation risk premium. I'm not sure what the Board staff found.

MR. WILCOX. And important movements on liquidity risk premiums, too.

MR. POTTER. Yes.

MR. EVANS. Did I miss a magnitude? Did you mention—

MR. POTTER. There's a liquidity aspect to this. You might expect non-Treasuries to move more quickly than index-linked ones, and that's something that can exaggerate movements on the day of the FOMC announcement. So the magnitude—

MR. EVANS. A couple of tenths?

MR. POTTER. The presentation I saw had expected inflation about 1.9 percent on the CPI basis. The liquidity premium could be larger than that. I would go for more like 30 or 40 basis points.

MR. WILCOX. In terms of recent data, if you happen to have your handy Tealbook data sheets in front of you, the TIPS-based measures are shown on page 26 in the rose-colored segment.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. Simon, you mentioned, in reference to number six on exhibit 1, a limited amount of pass-through in terms of the primary mortgage rate. I suppose the question is, would you expect this to increase as we pass through time? You mentioned some of the offsets, which we discussed at the past meetings, the increase in the fees and so on. After all, this is our objective. We're obviously not working for Wells Fargo or J.P. Morgan and have 40 percent of the market. We're working for the American people, and the objective in terms of efficacy is what happens to people actually taking out mortgages. So I would expect the MBS pricing to, over time, work its way into the mortgage market. I'm just curious from your standpoint as a market operator how you view this.

MR. POTTER. The models that we have, which try to look at the recent relationship between the secondary rate and primary rate, would suggest we've seen most of the pass-through. However, some of the structural features that you pointed out and other people have pointed out might suggest that we could see more competition in the market. I think Governor Duke pointed that out, that this is one area where the banks are actually making money. That would then disturb the relationship we've estimated over the past few years. You might see more pass-through, but on the models we have right now over the past two years, most of the pass-through is there.

MR. FISHER. Maybe, Mr. Chairman, we could just monitor that as we go through time in terms of the efficacy of the program.

Then regarding your chart 8 and your comment that net issuance is expected to be negative: One of the things I'm a little bit concerned about in terms of composition is that you have private sector issuance being positive, and unless you correct me, I think it's correct that we've had a significant uptick in junk issuance.

MR. POTTER. High yield, yes.

MR. FISHER. I mean really significant, CCC-rated and worse.

VICE CHAIRMAN DUDLEY. A lot of refinancing though of existing obligations.

MR. FISHER. Yes, and then, of course, the ABS market has become pretty attractive. Yesterday I saw for the first time asset-backed securities secured by sales of ATVs, or all-terrain vehicles, these little four-wheel gizmos that people like to drive around a ranch in; and then Target just sold off their credit card business. There are two ways to look at this. One is that this is helping. The other is, as a market operator, at least from my background, that these are signs of concern. We may be getting a little bit of froth. My question is: Might we be seeing a little froth in certain markets and maybe, again, could we track this over time from the standpoint of financial red lights or financial stability issues?

MR. POTTER. That's clearly a concern we've heard from some market participants—that we would see more reaching for yield that could produce some distortions. So far it seems to be in pretty small segments of the market, so I don't think it's something we should worry about. We should monitor it quite carefully. In terms of the ABS you pointed out, I think most of us would think that's a reasonably good sign if we're getting more securitized loans out there.

MR. FISHER. The hottest market right now is, of course, the auto market.

MR. POTTER. Yes.

MR. FISHER. Well, anyway, if you would be kind enough maybe next time to give us a little presentation with some breakdown I would be grateful. I think it would be helpful. Thank you very much.

CHAIRMAN BERNANKE. Okay. Seeing no further questions I need a vote to ratify domestic market operations. No objections? [No response] Okay. Thank you. Let's turn to item 3, and I'll call on David Wilcox to introduce the economic and financial situation.

MR. WILCOX.[3] My name is David Wilcox, and I approved this briefing. [Laughter] Actually, recent research has demonstrated that I have probably just triggered an unfortunate learned response on your part because overwhelming bipartisan majorities of Americans now report that they hear that last phrase as communicating the equivalent of: "You are now free to tune out the remainder of this message." [Laughter]

Taken together, the two employment reports that we received between the September and October Tealbooks imply a somewhat faster pace of improvement in the labor market than we had previously anticipated. In particular, over the past two months, the unemployment rate—plotted at the quarterly frequency in the top-right panel of your forecast summary exhibit—unexpectedly fell ½ percentage point, to 7.8 percent. In addition, total nonfarm payroll employment came in a little better than expected, as government employment growth—shown in the bottom-left panel—made a foray into positive territory. Finally, the BLS announced its preliminary estimate that private payroll employment in March 2012 will eventually be revised up by 450,000 and total employment will be revised up by a little more than 375,000.

We took on board part of this good news, but not all. On the payroll side, state and local government budgets look to us to still be under too much pressure to support even modest increases in head counts. In fact, as you can see from the dashed line in the lower-left panel, we have job gains in the government sector melting away between now and the end of the year. Moreover, the recent news about private job growth has not surprised us to the upside. In previous briefings, I have presented results from a statistical model that pools estimates of private employment from the household and establishment surveys and that also controls for recession-related distortions to seasonal factors. Updated estimates of the "signal" from this model—shown as the solid red line in the bottom-right panel—have been in the neighborhood of 100,000 jobs per month, with previous months a little *lower* than our estimate at the time of the September Tealbook (the dashed red line). On the household side, we are inclined to discount a portion of the recent drop in the unemployment rate because other indicators—including not only the payroll employment figures but also unemployment insurance claims and various measures of job vacancies and hiring—appear consistent with a smaller degree of improvement in labor market conditions. Nevertheless, we do think that labor market conditions are a little better overall than we were anticipating in September.

All told, we revised down our fourth-quarter unemployment rate forecast 0.3 percentage point. However, we made no material revision to our payroll employment forecast and continue to project that, aside from seasonal distortions, private job gains will average about 130,000 per month this quarter. On top of that, we expect recession-related seasonal distortions to add roughly 20,000 jobs per month in the fourth quarter, bringing the published total to 150,000 jobs.

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

On the whole, though, a somewhat brighter picture of the labor market does seem to mesh with the news about spending that we have received since September, which is likewise somewhat stronger, on balance, than we had expected. In particular, consumption appears to be on a higher trajectory coming into the current quarter; both retail sales and consumer auto purchases surprised us to the upside last month, as did the recent improvement in the Michigan measure of consumer sentiment. Moreover, while we are discounting some of last month's spike in single-family starts and permits, the recovery in housing-related activity appears to be on a somewhat steeper path than we had previously assumed.

On the downside, as we noted in the Tealbook, the recent news about business investment has been worrisome. As Glenn Follette noted yesterday, shipments of nondefense capital goods have plateaued, while orders have plunged and are now well below the level of shipments. That constellation of data is particularly concerning in light of some recent research by Jeremy Nalewaik and Eugénio Pinto of the Board staff, suggesting that shipments respond asymmetrically toward orders and move down especially quickly when orders are below shipments.

Nonetheless, the good news about consumption and residential construction look more important to us in terms of their implications for near-term activity; accordingly, we have marked up our projection for second-half real GDP growth by ½ percentage point relative to the September Tealbook. And I should note that we still expect the drought to shave about ¼ percentage point from real GDP growth in the second half of this year, with the effect on growth unwinding early next year.

Turning to the medium term, as shown in the top-left panel, we have upgraded our projection for real GDP modestly, mostly as a consequence of the adjustments to policy that you announced at the conclusion of your last meeting. You will recall that we predicated the September Tealbook on the assumption that the Committee's balance sheet policies and forward guidance would be unchanged from what was then in place. As markets had already priced in some probability of additional policy easing, we assumed that they would be disappointed when this easing failed to occur. In contrast, the latest Tealbook assumes that your flow-based approach to asset purchases will cumulate to $750 billion in additional purchases of longer-term securities, and it brings our assumption for liftoff of the funds rate into line with the forward guidance that you provided in September.

The revisions to our other conditioning assumptions were minor. On the fiscal side, we continue to anticipate that federal fiscal policy will exert a substantial drag on economic growth in the medium term, especially next year. We also still anticipate—perhaps "hope" is a better word—that the fiscal cliff will be addressed in time to stave off the sharper fiscal retrenchment implied by current law. On the foreign side, as Steve will discuss, we continue to expect that circumstances will impel European policymakers to eventually do the right thing, which should permit the euro area's economy to start growing again by early next year.

Overall, the contour of our medium-term projection for real GDP growth is broadly similar to our September projection, with a moderate pickup in growth expected over the next couple of years. The slightly faster rate of output growth in this projection yields a slightly more rapid decline in the unemployment rate (the top-right panel). Combined with our lower assumed jumping-off point, the projected decline in the unemployment rate leaves it at 7¼ percent at the end of 2014, almost ½ percentage point below our September forecast.

Although not shown in the exhibit, our 2015 outlook calls for an additional small acceleration in output, to a 3¾ percent pace. As this rate of growth is considerably above our estimate of potential, we expect a further reduction in the unemployment rate to 6¼ percent by the end of that year.

As shown in the middle two panels, our inflation outlook is little changed from September. The incoming data on core PCE price inflation—the middle-right panel—have been about in line with our expectations. Going forward, we have nudged up our forecast for core inflation in 2014 by one-tenth in response to the narrower margin of labor market slack in this projection. We expect core inflation to hold steady at a little below 2 percent through 2015, reflecting anchored long-term inflation expectations, modest increases in imported goods prices, and some remaining slack in resource utilization.

As Steve will discuss, oil prices are little revised from our previous projection, and futures prices remain downward sloping over the latter part of the projection period. Nonetheless, domestic energy prices are coming in higher than expected, boosted by a rise in retail gasoline margins that we believe will be short lived; by contrast, food price inflation has surprised us to the downside. Smoothing through these various revisions, our near-term forecast for total PCE inflation—the middle-left panel—is not too different from the September Tealbook. Further out, we continue to expect that total PCE inflation will run a little below the core as anticipated declines in crude oil prices put downward pressure on retail energy prices.

MR. KAMIN. Two weeks ago, the Nobel Peace Prize was awarded to all 500 million residents of the European Union. [Laughter] The $1.2 million in prize money could be used to bail out Andorra or, if channeled through a leveraged special purpose vehicle, perhaps the Principality of Monaco. [Laughter] Otherwise, European policymakers did not make much progress in resolving their crisis since your previous meeting. Accordingly, I would like to start my briefing today with prospects for Asia.

Including both Japan and the emerging market economies in the region, Asian economic growth has slowed from 5¾ percent in the first quarter to an estimated 3½ percent in the third. Our third-quarter estimate is almost ½ percentage point lower than we wrote down in September. Exports, industrial production, and PMIs generally came in weaker than we anticipated, and we have lowered our current-quarter growth rate for Asia ¼ percentage point to just under 4 percent. These markdowns are worrisome. With Europe in recession and the U.S. economy still not on a solid footing, the global economy has precious few engines of economic growth, and until recently Asia has been one of them.

So far, we remain cautiously optimistic that the Asian economies will pull out of their doldrums starting next year and expand at a 4¾ percent pace over the forecast period. To begin with, part of the recent slowdown represents the effects of one-time factors such as the completion of recovery from Thailand's floods last year, as well as the tailing off of reconstruction spending after Japan's earthquake and tsunami. The Asian economies are also being dragged down by spillovers from the weakness in Europe and the United States. By our estimates, real exports from the region's economies fell at a shocking 17 percent annual rate in the third quarter; as you would expect, sales to Europe took the biggest hit. However, as the European and U.S. economies start picking up, so, too, should exports and manufacturing in Asia. Finally, some of the slowdown in China appears to reflect policies taken by the authorities last year to restrain credit and cool overheated property markets. Since then, policies have turned more stimulative. In fact, since the October Tealbook was finalized, the Chinese published data on GDP for the third quarter; registering 8 percent at an annual rate, China's GDP growth was a percentage point above our Tealbook forecast and provides some hope that the process of recovery may have already begun.

Nevertheless, we see important risks to this outlook. For some time now, we have been attuned to the possibility that a housing bust or banking crisis in China might lead to a hard landing, and this issue is addressed in considerable detail in the Tealbook. More recently, the shortfall in Asian exports has highlighted the risk that the weakness in Europe and the United States could dampen global trade and restrain Asian exports and manufacturing to a greater degree than we have factored in so far, potentially showing through to domestic demand and tipping the region into a more concerted slump. We do not judge this to be the most probable outcome, but it would become far more likely in the event of another global shock, such as a fiscal cliff event in the United States or a severe intensification of the crisis in Europe.

Turning to the European crisis, our story is little changed from the one I outlined at your September meeting: The ECB's announcement of its program to buy the sovereign debt of vulnerable countries has diminished, though by no means eliminated, the risk of a catastrophic financial event, and this should contribute to some easing of financial stresses over the medium term. However, the ECB's purchases of a country's bonds will start only after that country has requested an assistance program from the EU, and as we anticipated last month, the country currently most at risk—Spain—has balked at making such a request in part because of the stigma associated with a program as well as the additional policy conditionality that such a program might entail. As a result, the rapid declines in sovereign risk spreads and other measures of financial stress that we saw between late July and mid-September have slowed, and market strains are likely to intensify again over the next few months until European policymakers finally take steps to comply with earlier commitments. These steps include not only a program for Spain that opens the door to ECB bond purchases, but also further progress toward a regional banking union and approval of another official loan disbursement for Greece, which would reduce the near-term risk of its exiting the euro area. Although any number of accidents could derail the process, in our baseline scenario, these actions put European markets on a slow, halting, but sustained path toward eventual normalization.

That normalization, in turn, should lay the groundwork for an end to Europe's recession next year. With economies in Asia and elsewhere benefitting from both Europe's recovery and the projected pickup in the United States, we see total foreign growth picking up from an anemic 2 percent pace at present to 2¾ percent next year and 3¼ percent in 2014. As trend foreign growth is in the neighborhood of 3 percent, this expansion is by no means exuberant and just suffices to start cutting into resource slack later in the forecast period.

However, the pickup in global growth should provide important support for U.S. exports: After slowing to less than 3 percent this year, exports are projected to rise 5 percent next year and 6 percent in 2014. Over the course of the forecast period, the quickening expansion of the U.S. economy drives import growth up as well, so that net exports maintain a neutral contribution to GDP growth. Although a neutral contribution doesn't sound like much, it compares well with previous U.S. economic expansions, when net exports generally subtracted from overall growth.

The favorable performance of the U.S. external sector in our forecast reflects not only a pickup in foreign growth but also declines in the dollar. Since its recent peak in late July, the broad dollar index has dropped about 3 percent, and we project it to move down another 5 percent or so in real terms over the next two years. Part of the recent decline owes to the easing of European financial stresses, which has led to the reversal of flight-to-safety flows that had boosted the dollar earlier on; further normalization of market conditions should contribute to additional depreciation over the forecast period. Another part of the decline in the dollar since the summer likely reflected anticipations of easier U.S. monetary policy. The dollar depreciated sharply in the week before the September FOMC meeting and fell another ½ percent on the day of the announcement itself.

Over the entire intermeeting period, the dollar declined chiefly against EME currencies, and consistent with that, flows into EME bond and equity funds picked up. Conversely, the dollar edged back up against the currencies of many advanced economies perhaps in part because Japan and Australia loosened monetary policy. Although this easing may have blunted the effects of our asset purchases on the dollar, to the extent that it provides some impetus to growth abroad, this, too, ultimately benefits U.S. exports and activity.

Besides depressing the dollar, some observers have expressed concern that our asset purchases boost oil and other commodity prices; officials in India raised that issue during Chairman Bernanke's visit there two weeks ago. In the event, neither oil nor metals prices are much changed since early September, while food prices have retreated on news that the drought will be less adverse than initially expected. We will continue to monitor these and other global markets closely.

David and I will now be happy to take your questions.

CHAIRMAN BERNANKE. Thank you. Questions? President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. David, while we were going over the Tealbook, we were trying to understand the staff's assumption of the duration of the MBS purchases and your assumption related to any continuation of Treasury purchases after the expiry of the MEP, and how that connects to your estimate of 2013 employment gains. I wonder if you could just clarify that. That's in the context of how we assess as a Committee substantial improvement or the lack thereof in the outlook for employment.

MR. WILCOX. We engaged in a fair amount of scriptural analysis, I think, just like outside people did by trying to discern exactly what it was that you meant by substantial improvement in labor market outlook.

We interpreted "outlook" as having a concordance to "forecast," and then we projected forward. Now, the truth of the matter is we had a pretty flat likelihood function, having gone through that sort of textual analysis. I think there's a plausible case to be made that by the middle of next year, the Committee might be prepared to declare itself as seeing a substantial improvement in the labor market outlook as distinct from measures of employment conditions on the ground prevailing at that time. The way that I would build the case for that is that by the middle of next year, if there's any mercy in the world, the fiscal cliff should be at that point substantially in the rear view mirror. The uncertainty related to that should be lifting. By that point on our baseline narrative, European policymakers should have begun to more assertively put in place the kinds of policy steps that will definitively put that crisis in the healing process.

And so although it's still the case that the more substantial acceleration in GDP would remain a forecast at that point, I think it's consistent with the Committee's language, as we imagined it, to believe that those conditions—the elimination of some of the downside tail risks, and the pulling forward by nine months of that period of more substantial acceleration in activity—would provide the basis for the Committee at that point to declare a cessation of purchases, and that the conditions had been met. That said, it was a tough call.

MR. LOCKHART. I don't hear you pointing to real evidence in the employment markets per se in the first half, which, if I read the Tealbook correctly, continued at a fairly muted level of job creation, basically similar to the fourth quarter of this year; is that correct?

MR. WILCOX. Yes, that's right. Bill, do you want to add anything?

MR. WASCHER. To put some numbers on it, as David mentioned, we think the underlying pace of private payroll growth is going to be about 130,000 in the fourth quarter, and we're expecting that to continue with that same pace in the first quarter and then gradually pick up. In the second quarter, we have about 160,000 and then moving up to about 200,000 by the end of the year.

At that point, we decided that the outlook will have improved enough for asset purchases to end. The employment numbers are starting to pick up to above 150,000 and move up over the course of the second half to about 200,000. Given that outlook we made the decision in the forecast to assume that asset purchases would end at that point.

MR. LOCKHART. Thank you.

MR. ENGLISH. In terms of what's built into the forecast, we're assuming that the purchases of Treasuries under the MEP are continued after the end of the MEP at the end of the year, and the MBS purchases continue all through June of next year.

MR. LOCKHART. Thank you.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. Steve, you may remember some time ago that WikiLeaks had this release of a cable and a conversation with now Vice Premier Li when he was chairman of the Communist Party of Liaoning, which is a northeastern province in China, and they were asking how he and the Politburo got the best measurement of economic growth; he referred to rail shipments and electricity consumption as well as lending activity.

We've been tracking this. I'm sure you have as well, but I have a question at the end of making a few data points. One is that electricity consumption, at least in the series that we've been able to construct, is expanding at about 2 percent—not a very robust number. If you look at freight in terms of train shipments, it's down 7 percent, and that's the lowest we can construct going all the way back to 2003. And last, intercoastal shipping activity has dropped 34 percent, year to date. So I'm wondering if we are able to parse from that how much is related to fallow export activity—you mentioned Europe, which is certainly hurting, and the slowdown elsewhere—or what it might tell us about their own domestic activity and how weak things really are. Because if you look at the indicators that I just mentioned, the growth rate, which I've always found suspect, would seem to be much less than what they're reporting. I wonder what your take is on that.

MR. KAMIN. Sure. First of all, we've been very alert to two issues that are related. One of them is whether the official GDP data understate the true growth of the economy.

MR. FISHER. Overstate or understate?

MR. KAMIN. Oh, I'm sorry. Overstate. Thank you.

MR. FISHER. Thank you.

MR. KAMIN. And second, as a related matter, has the slowdown in China been steeper than the official data would suggest? We actually developed these issues, and we have a box in the Tealbook that addresses them, and I'll just mention some of the issues.

First of all, electricity production, indeed, has tailed down over time, but it is reasonably well correlated with the ups and downs of official Chinese GDP growth. In fact, in the third quarter, at least by our seasonal adjustment estimates, it seems to have popped up a little bit. By that metric, the movements in the official data don't seem broadly out of line, although we haven't looked at your freight cars or some of the other issues. Actually, since a particular weak spot for the Chinese economy has been exports, I could easily imagine that some indicators that are most correlated with export activity could show steeper declines than GDP growth generally, so that's one area of investigation we've pursued.

Another focus of our analysis has been to note that we've used a short-term forecasting model that relates GDP growth to three indicators: retail sales, import growth, and industrial production. Over time, that has tracked official GDP growth pretty well in terms of its ups and downs. If the Chinese authorities were fudging the data to an exceptional degree lately, they'd have to be doing it not only with GDP growth, but also to these other indicators, which I won't rule out as impossible, but that seems less likely.

One final point is, as I mentioned, since the Tealbook was put to bed, the Chinese released new data for GDP in the third quarter, which looked stronger. That was, indeed, consistent with the stronger tone of retail sales and IP data that they released at the same time. By our model, we actually would be looking at quarter-to-quarter annual rate GDP growth of like 8½ percent, but the actual data suggest 8 percent, and we're going with that.

So long story short, for obvious reasons we're not 100 percent confident about the official data that the Chinese have released, but we haven't been able to find any smoking guns, as it were, that the data are basically distorting in a significant way our view as to what's happening.

MR. FISHER. Thank you.

CHAIRMAN BERNANKE. Vice Chairman.

VICE CHAIRMAN DUDLEY. One other point on the whole electricity–GDP conundrum in China. There is some evidence that the industrial sector is a really big user of electricity relative to the overall economy, and so to the extent that the manufacturing sector is hit by the slowdown in Europe, for example, you're going to see a disproportionate decline in electricity relative to overall GDP. What seems to be happening in China is that manufacturing activity is under some pressure, but if you look at the household sector, consumption seems to be doing quite well. So if you break the electricity consumption down by sectors, you can reconcile the weak electricity consumption.

MR. FISHER. But the answer to my question is that it's export-related more than it is domestic growth–related.

VICE CHAIRMAN DUDLEY. Yes, it's industrial-related.

MR. KAMIN. But even without going to that degree of decomposition, it's not obvious just from the electricity numbers alone, just in aggregate, that they're indicating a much more rapidly slowing economy than we've seen.

CHAIRMAN BERNANKE. Okay. If everyone is willing, maybe we could get to our economic go-round. It would be terrific if we could do that all today. I ask everyone, to the extent you can, to keep your interjections crisp and concise. And with that I will start with a recognized expert in the field of crisp and concise interjections, President Rosengren.

MR. ROSENGREN. Thank you, Mr. Chairman. I would just start with a parenthetical comment. Not to relitigate our previous discussion, but it's notable that if staff who sits in on the meeting have trouble interpreting qualitative guidance and people that are very informed investors, as Simon highlighted, have a very different interpretation of qualitative guidance, it does highlight the challenges in communication of relying solely on qualitative guidance.

In terms of the economic outlook, I agree with Governor Stein's comments in that I was somewhat surprised by how much our actions at the previous meeting affected financial markets. While the policy affected asset prices in a way similar to conventional policies—lowering mortgage and bond rates, weakening the dollar, and increasing stock prices—the big surprise was how much the mortgage rate declined and how little the Treasury rate responded. My interpretation of this is that markets had expected us to do more with Treasury purchases, but that our anticipated mortgage purchase program was more substantial than anticipated. While it is too soon to know the broader economic impact, the initial response has been quite encouraging.

Qualitatively, discussions with community bankers since our action have highlighted that in New England, refinance activity has been energized, and most banks are also seeing a higher volume of purchase activity, presumably, in part, as a result of our action. They have also noted that they are now funding more construction loans with financially strong builders, and that those builders seem to have no difficulty selling new homes. Given that most New England states have unemployment rates below the national average and are seeing home price increases in many markets, this is exactly what I would have hoped from our policy actions. We are providing significant support to a nascent housing market recovery. The Mortgage Bankers Association data on refinance and purchase loans nationally seem broadly consistent with what I am hearing more qualitatively from contacts.

In discussions with college presidents, I'm hearing an increased willingness to start building projects. Some colleges report endowments at or above 2006 levels, and with the very low interest rates, they are beginning to start building projects in part because of the low cost of funds and cost of construction, along with more faith in the recovery. That some colleges are using debt finance rather than waiting for capital campaigns reflects a response to our actions of pushing long rates down.

A third area that has been positively affected by low rates is car sales. Banks report that they have lowered auto rates, and consumers do seem to be responding. Similarly, auto dealers I've spoken to believe that low auto loan rates are having a positive effect on auto sales. Thus, more stimulative, unconventional policy is having an effect, and the supposition that further unconventional policies would not influence economic growth does not seem consistent with what we have seen to date.

Another benefit of our open-ended action is that there seems to be more confidence that tail risks will be mitigated by our open-ended monetary policy tied to economic outcomes. Consumer and housing activity appear to be picking up, and while there are many factors that influence household expectations, I do think our action is playing an important role. The early October rise in the Michigan consumer sentiment index, especially the rebound in the expectations component, seems consistent with diminishing uncertainty on the part of consumers.

However, firms seem more influenced by the continuing uncertainty surrounding the U.S. fiscal situation and international economic problems in Europe and China. Thus, unlike the earlier stages of the recovery, firms are lagging while households are leading the recovery. If some of the uncertainty is removed at the end of this year, I can imagine getting a stronger and more sustained recovery in 2013. However, both our policy action and this improved sentiment can easily be swamped by fiscal policy mistakes either here or abroad.

Because our actions are having the anticipated positive effect, I have, as a result, raised my own forecast for economic activity. However, it will still be many years before we are back to full employment. To avoid further labor market scarring, I believe it is appropriate for us to continue to take strong action that will reduce the time it takes to more fully utilize resources in the economy. That action should continue into next year, it seems to me, but we will turn to that topic tomorrow.

CHAIRMAN BERNANKE. Thank you. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. Most of our contacts in the Sixth District continue with their wait-and-see approach tied to broader concerns about well-recognized uncertainties. A few more of our directors said they anticipate some greater deceleration in the short term than they expressed at the time of the previous FOMC meeting. For example, a director from the country’s second-largest retailer, a national home improvement chain, said that despite the fact they had experienced better-than-expected sales recently, they are budgeting a slowdown in 2013 tied directly to fiscal cliff effects.

In our board meetings and advisory councils, we continue to hear reports of deferred projects across several sectors. While this does not bode well for demand in the short term, it suggests there may well be a significant level of pent-up investment activity that will take shape quickly once greater clarity regarding the near- to medium-term outlook is established.

Regarding the national outlook, my GDP growth projection aligns pretty closely with the Tealbook over the next few quarters, but I'm more cautious about an acceleration in growth materializing in the medium term. The reason I asked the questions earlier of David Wilcox is I note that the Tealbook sees an acceleration beginning mid-2013, and it appears this acceleration triggers the staff's assumed cessation of the LSAP3 after eight months. Because my forecast has lower GDP growth toward the back end of the forecast horizon, I don't have the same confidence that policy will have done its work by mid-2013.

My outlook for inflation runs a little higher than the Tealbook, holding at the Committee's longer-term objective, and my outlook for 2013 and 2014 year-end unemployment is essentially the same as the Tealbook, but the quarterly jobs growth stories differ enough to mention. My projections assume relatively even jobs growth across the quarters, while the Tealbook shows a pretty steep acceleration starting in the back half of 2013, following on weaker numbers in the first half. I mention this because it raises in my mind—and again, was the reason for the question earlier—the basis for the Tealbook's assumption of the LSAP stopping at midyear.

I'd like to comment in this round on two questions related to the performance and outlook of the economy that I expect the Committee will confront in coming meetings. In the intermeeting period we engaged a number of contacts across the Southeast to gather anecdotal observations on these questions. The first question was about the housing sector and any perceived impediments to effective transmission of MBS-related monetary actions through the mortgage credit channel to the real economy. Improvement in the housing market is gaining traction in my part of the country. Builders and realtors report a bounce in construction and sales activity. There was widespread agreement among bankers that HARP2 is making headway in addressing underwater mortgages for those that were current on their payments. That said, the banking and real estate contacts report that several obstacles to stronger mortgage activity exist, including impaired credit quality of potential borrowers, conservative loan underwriting, and administrative backlogs.

Regarding the transmission process through mortgage credit originators, my contacts indicate that a capacity problem does indeed exist. The larger mortgage players have not committed sufficient resources to expand refi capacity because the refi business is not viewed as sustainable once rates begin to rise. It's worth mentioning that a member of President Rosengren's staff provided my staff with a preliminary analysis of pass-through from the secondary MBS markets to primary markets, and the work suggests—or at least our interpretation is—that there has been substantial but not complete pass-through from secondary to primary mortgage markets. I think more analysis needs to be done to map pass-through from rates all the way to originations, closings, and upward pressure on house prices.

The second question is related to labor market conditions in general, with a particular focus on elements that might be relevant to the Committee's future assessment of sustainable improvement in the outlook for employment. In the near future, the Committee is going to have to evaluate the outlook for employment looking at a range of data inputs, of course, but perhaps some attention to anecdotal information. My comment is anecdotal, of course, but we continue to hear that some industries, notably the retail sector, are planning to increase the relative size of their part-time workforce in order to minimize the cost associated with mandated health care coverage. One of my directors, the CEO of a multi-format national restaurant firm, recently made news by announcing his company's intention to move to an increasing use of part-time employees in anticipation of implementation of the Affordable Care Act. Our home-improvement chain director has said the same thing. This bears watching, I think, as we interpret the data on employment and labor markets, particularly as an alteration of the recent LSAP3 policy is considered. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. As I look at the Ninth District, I think that the economic tale is an unusually tangled one. There are definitely positive signs. In the Minnesota labor market, the number of job vacancies and the job vacancy rate recovered to their pre-recession levels. At the same time, Minnesota's unemployment rate was 5.6 percent in the second quarter of 2012, only about a percentage point higher than in the second quarter of 2007. There are also positive signs in the housing market. According to the Case-Shiller index, housing prices in Minneapolis–St. Paul were about 6 percent higher in June than the year before. But there are also reasons for concern. Our business contacts report that their desire to engage in either cap-ex or hiring has declined significantly since the beginning of the year. As you can probably guess, the one-word explanation for their caution is uncertainty, primarily about international demand and United States fiscal policy.

This mixed picture is true at the national level as well. In housing, the recent surge in housing starts is a positive element. More important, at least from my point of view, housing prices seem to have begun to rise from what we hope is the bottom. In the labor market we see signs of improvement, such as household employment having grown at about 180,000 per month over the past three months. Measures of financial market uncertainty, such as the VIX and VVIX, remain low by post-2007 standards. This month's Michigan survey of consumer sentiment jumped to levels not seen since the beginning of the recession. That's all on the positive side.

On the negative side, manufacturing has slowed. The Tealbook reports that nonresidential investment is likely to be slow in the near term, and the NFIB survey of small business attitudes toward hiring has really a near-recessionary feel to it.

Financial markets continue to exhibit levels of risk aversion that I would have to say are extraordinarily high. The 20-year real TIPS yield is essentially zero. This means that on the margin, investors do not see any investments better than giving up a unit of purchasing power today for a unit of purchasing power 20 years in the future. Now, as somebody who has spent much of my life teaching about the time–value of money, I find this quite disheartening. [Laughter] Even though some observers view equity prices as being inexplicably high, the Tealbook documents that the equity risk premium is actually higher now than at any point in the past 20 years.

My outlook for the national economy is reflective of this mixed picture. My benchmark outlook is about the same as the Tealbook's, albeit with slightly less economic growth and slightly more inflation in 2014, somewhat similar to what President Lockhart was saying. But I would say that the uncertainties of my benchmark outlook are much more important in my policy thinking than the outlook itself. On the one hand, slowing international demand or a trip over the fiscal cliff would lead to downward pressure on both employment and prices in our own country. On the other hand, it is also possible that we could see a protracted increase in housing prices. Such an increase would generate a welcome boost to median household net worth, there would be an increased demand for goods and services, and this would push upward on employment and prices.

So in my outlook I see a great deal of uncertainty about our rate of progress to our dual mandate objectives. We need a way to communicate to the financial markets and to the public that we stand ready to be appropriately supportive in case of an adverse shock to employment and prices, while remaining appropriately vigilant against unduly high inflation. In the next go-round I will discuss how, not surprisingly, a threshold policy would provide exactly that kind of communication. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Williams.

MR. WILLIAMS. Thank you, Mr. Chairman. The data since our previous meeting have been somewhat encouraging. However, despite this improvement, the pace of recovery—whether measured in payroll jobs or GDP—remains modest. For example, my forecast for the next three quarters is no better than the sluggish pace of the past several quarters.

Overall, my forecast is quite similar to the Tealbook, both for economic activity and inflation. I would also like to echo some comments by President Rosengren about the effectiveness of policy. I, too, am hearing about it from representatives of the auto industry and real estate that lower interest rates are having an effect on spending in those sectors.

In my remaining comments, I am going to focus on the risks to the outlook. Of course, the number one risk to the U.S. economy is determined by the outcome of the World Series. [Laughter] Two years ago, John Moore, sitting in this seat, noted that a Giants win in the World Series is good for the country, showing economic data that, following a Giants win, GDP growth was very high. Now, at the time, some questioned this conclusion. They noted that perhaps a Texas Rangers win would be even better for the country. But as John noted, there are no data on such an event. [Laughter] The situation, I should note, has not changed. But there are hard data on what a Tigers win means for this country, and it is not a pretty picture. [Laughter] The mean growth of real GDP following a Tigers win—and there have been several over the past 100-or-so years—is 2.3 percent, which would be disappointing. But what worries me even more than that is the downside risk to a Tigers win. In one year, after the Tigers won the World Series, real GDP fell by nearly 11 percent. We cannot afford that, and I think we should do whatever we can. I'm asking all of you to support the Giants to avoid that kind of outcome.

Turning to the other risks, there's Europe, there's Asia, there's the fiscal cliff, and I think we've talked briefly about those, and my comments actually echo some comments already made. But we did have a recent San Francisco Fed research symposium where we brought together leading experts from around the world to discuss what has been happening in Europe and what the outlook is for Europe. I would like to mention a couple of things I learned from that, which I thought were very interesting.

One point that the symposium participants highlighted was that the ECB's actions and other actions by leaders in Europe have only postponed the euro zone's day of reckoning, in their view. They emphasize that without TARGET2 and other official support, the peripheral countries would have already experienced a classic sudden stop. In a sudden stop, a country with a large current account deficit and capital inflows suddenly overnight sees their inflows dry up. Normally, the country would exhaust its official foreign reserves very quickly if it tried to maintain a fixed exchange rate peg. Of course, it would be forced to devalue. In the euro zone periphery, however, the TARGET2 framework allows the peripheral countries to accumulate large negative official foreign reserve positions at the national central banks. At present, the periphery's negative reserves amount to about €1 trillion and are rapidly rising. These negative reserve balances have allowed the periphery to stay in the euro zone and bought them some time to make painful fiscal and labor market adjustments internally rather than through the exchange rate. But the magnitude of the required adjustments is staggering. For example, unit labor costs have fallen about 5 percent on average among those countries when they probably need to fall more than 20 percent to restore competitiveness with the core. Similarly, the periphery's fiscal deficits have failed to decline in line with government promises, reflecting both the severe political and economic strains these countries are undergoing. Because of these daunting challenges, which will likely persist for years, I continue to be very concerned about the risks posed by Europe for the global economy.

Market participants seem to share this view that the ECB's recent policy announcements have bought time for the euro zone, but the longer-term fundamental issues remain. My staff analyzed the implied volatility from options of various maturities on the Euro Stoxx 50 Index. Similar to Simon Potter's observations regarding euro zone bond yields at our previous meeting, my staff found that the bond purchase announcements by the ECB lowered implied volatility on European stocks only in the very near term. Those policy announcements had almost no effect on implied volatility at horizons of six months or more.

The U.S. fiscal cliff represents another significant risk to the outlook. Perhaps surprisingly, financial market participants seem less anxious about this issue. Looking at options of various maturities on the S&P 500, my staff did not find any jump or kink in implied volatility occurring around, say, the end of this year. Similarly, looking back, fiscal wrangling and congressional brinkmanship in the spring and summer of last year seem to have had very little effect on implied volatility then. By contrast, just a few months later, in the summer and fall of 2011, U.S. implied volatility responded much more dramatically to events in Europe.

In talking to my business contacts I hear a similar story. They echo this view that you are seeing through the market measures. With the exception of defense contractors, who obviously are directly affected by the fiscal cliff, my contacts appear to be even more worried about weakness in Europe, China, and in Asia more broadly, obviously, than they are about the fiscal cliff. When asked whether the fiscal cliff was a significant concern for their businesses, the consensus is that it is secondary relative to the fundamental problem, which is a lack of demand.

Regarding inflation, the recent data have come in more or less as expected. I continue to expect that both headline and core PCE inflation will remain somewhat below 2 percent for the next several years. My one forward indicator that gives me a little pause was the price I paid for World Series tickets, which was dramatically higher than two years ago. But putting all of this together, I see an economy that, despite the recent uptick in the data, continues to be plagued by modest growth, insufficient demand, and a weak labor market outlook. And the downside risks to the outlook for economic activity remain elevated. Thank you.

CHAIRMAN BERNANKE. Thank you. President Pianalto.

MS. PIANALTO. Thank you, Mr. Chairman. The data that we received since our previous meeting have led me to make only slight changes to my projection for current-year GDP growth. The incoming data were somewhat mixed, but most signs still point to very moderate growth.

Many manufacturing contacts in my District are concerned about a slowing in their activity levels. Notably, several large manufacturers of capital goods have been surprised by sharply lower orders in the past few weeks. Some of them cite political and economic uncertainty as a contributor, but they are unable to offer clear explanations on how and why these uncertainties are suddenly a bigger problem. Many, as others have reported, also report a considerable deceleration in emerging market economies as a critical factor in the slowdown. And it is not clear how this issue is going to develop over the remainder of the year.

In contrast, the producers in the more consumer-focused automobile sector are seeing growth, and they are also expecting that growth to continue. Nationally, this relative strength in the outlook for auto demand was a part of a broader pattern of further improvement in the household sector, which was evident in the pickup in retail sales and some of the housing indicators. Consumer-focused markets appear to be offsetting some of the weakness in business investment. Still, pulling together the divergent incoming data and the anecdotal reports that I have received, I continue to anticipate very moderate GDP growth, just under 2 percent, as the most likely outcome through the end of the year. Looking further out, I'm still anticipating a gradual pickup and expect to see a GDP growth rate of a little more than 2½ percent in 2013 and slightly over 3 percent in 2014.

Importantly, my outlook for GDP growth incorporates some abatement in today's high uncertainty levels and a return to more normal consumption patterns as house prices continue to stabilize. In addition, I am also expecting that the fiscal cliff will be at least partially resolved later this year, although subdued federal spending remains a headwind going forward in my outlook. Finally, it seems likely that any resolution of the fiscal cliff will not come until nearly the last moment, and that clearly implies a lot of risk to my GDP growth outlook until the end of the year.

My take on the latest employment report is that it made the scenario that was looming over the summer of a labor market entirely stuck in the mud less likely. Instead, the latest report supported continued slow progress in labor markets. The month-to-month swing in the household survey can make the unemployment rate volatile, but the evidence of improvement in labor markets was supported by household employment growth in most of the demographic groups. There were significant upward revisions to the establishment data and some increases in average hours worked. Hopefully, we will see these improvements continue.

Regarding inflation, the Cleveland Fed measures of underlying inflation have been running closer to our inflation objective than the CPI ex food and energy. For example, the median CPI has increased at an annualized rate of 2.6 percent over the past three months, and it is up 2.3 percent over the past year. This level of CPI inflation is just about right on target for a PCE objective of 2 percent, given my staff's current estimate of the difference between CPI and PCE inflation. I am still expecting inflation to be at or below our inflation objective over the forecast horizon. And it appears that financial markets are also anticipating subdued inflation rates. In the Cleveland inflation expectations model, which adjusts for the inflation risk premium, expectations are anchored below 2 percent, even beyond 20 years. The policy-relevant forward rate of three years, two years forward has remained below 1½ percent. Other inflation expectation measures are also showing few signs of heightened inflation concerns.

The risks to my outlook for GDP growth are primarily to the downside. Until we get past the fiscal cliff, I don't see the balance of risks becoming more favorable. Also, despite the recent progress on unemployment, those gains could prove temporary, particularly with economic growth continuing to be very moderate. On inflation, I see the risks as balanced because of the stability that we have been seeing in inflation expectations, despite the growth in our balance sheet. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Fisher.

MR. FISHER. Thank you, Mr. Chairman. Like President Pianalto, our own trimmed-mean work at the Dallas Fed indicates that inflation is well contained and is running at roughly a little bit below our 2 percent longer-term target; so inflation isn't the issue.

I noted President Williams's comments, and I listened to them very carefully. I agree with him fully that China and Europe are a deep concern to at least those that operate globally. I would add that for the first time, Steve Kamin, I am actually hearing of slow pays in China and lagging receivables. For example, in the case of Foxconn, which has 1 million employees—the way the semiconductor companies work with them is through a collection agency. That collection agency is reporting slow pays from Foxconn. You are seeing other similar signs of lagging in payments and cash flow issues. There may be more there. We just need to watch it. But it adds to the angst in the business community. Europe is already full of angst as you mentioned, and I am not going to comment further on that.

Unlike President Williams, my corporate contacts continue to talk about the fiscal cliff, and the differentiation is as follows. It is one thing if measures are taken, particularly temporary measures, to avoid the fiscal cliff. We all know that it would have at least a stay on the gross GDP impact. The real issue is employment and how you plan and budget for employment. And, again, citing the people that I speak to—which is a pretty good survey I think, including not just my directors, but a broader group—they continue to worry about whether or not they will be able to have specifics around which to plan not only expansion of cap-ex but also expansion of head count.

President Kocherlakota mentioned the NFIB survey. I have talked quite a bit about that publicly. It is not very encouraging. As one small business leader told me, it is very hard to build a railroad when you don't know where you are going to be able to lay the tracks. I think that still remains a problem. And drilling down on this issue in terms of how corporations actually budget, in terms of payroll and the larger corporations' job enhancing cap-ex, temporary solutions to the fiscal cliff do nothing but push out their budgeting cycle. It is pretty clear, citing a direct quote from one of my most reliable corporate contacts, a large national operator, that already "strategic positioning steps for the second half of 2013, fourth quarter 2013, are being shelved."

My principal concern is employment. It has been for a very long time. I think that when you mentioned uncertainty, President Kocherlakota, that is still the operative word in the private sector. And I don't think we can take any relief from whether or not there is a short-term solution to the fiscal cliff. What I care about is employment. So we may not have the dent to GDP that we might fear. But I do not think it is going to lead to more robust employment activity if we have temporary measures, which is what I expect.

I would like to conclude, Mr. Chairman, with a comment that President Lockhart made because it's not unimportant. The restaurant industry claims that they have 1 out of 10 workers in the workforce. I don't know if that's correct or not. But the Affordable Care Act is not extended to people that work 30 hours or less. What is interesting about that industry is the average restaurant worker works 48 hours. Most of the restaurateurs and—I love this term—the casual dining establishments are actually taking steps to move their workers to less than 30 hours or to make them, in one way or another, temporary employees. This may screw around with the employment data for a while, which is why I mention it. I think President Lockhart is correct: We ought to pay attention to it. It is not unimportant, if it is, indeed, that significant a portion of the workforce. The Act may have an effect that is counter to what was originally planned by the authorities that framed it. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Evans.

MR. EVANS. Thank you, Mr. Chairman. I would like to lodge a protest against the banning of electronic devices in this room. I have only a very faint memory of Tigers games when they have won the World Series, and I have no access to an electronic device. [Laughter] However, I do remember that they won in 1968 and sometime in the early 1980s, which I suspect is not helpful for this Committee. But if I could interrogate President Williams, maybe I could get him to reveal that much of his statistics on San Francisco are due to New York. [Laughter] That clouds the statistics.

MR. LACKER. The New York Giants.

MR. EVANS. At any rate, my outlook is not appreciably different from our September meeting. At that time, I had already assumed the kind of additional policy accommodation that led the Tealbook to strengthen its forecast for medium-term GDP growth this round, and nothing in the recent data has caused me to change my basic views on the contours for growth or inflation over the medium term. As President Williams and President Rosengren mentioned, I have also heard comments about how helpful our monetary policy actions in general have been for stimulating durable goods consumption growth and housing in general.

As I talked with my business contacts this round, all of the commentary was very similar to September. Several CEOs mentioned that business activity continues to be somewhat soft, but no one reported that a big drop-off was imminent. In describing this slowness, several directors and CEOs made it a point to say that the current slowing is nothing like 2008 and 2009. Thank goodness for easy comparisons. For example, a large equipment manufacturer said that the near-term outlook was weak, as if air is coming out of the balloon. But he expects a pickup in activity after the New Year.

They were similarly concerned and hopeful about global prospects. Growth is slowing now, but expectations are for a firmer recovery in 2013. Several of my contacts noted that the slowdown in China appeared to be bottoming out and that the Chinese economy may be on the verge of a turnaround. For example, Caterpillar reported receiving more requests for price quotes from Chinese customers, which is often a precursor to an increase in actual orders.

With respect to the fiscal cliff risks in the United States, here, too, there was little new to report. I had been expecting to hear a growing crescendo of concern running all the way to the end of the year. But now I get the impression that businesses have already loaded up as much as possible on uncertainty and caution. This fall, businesses have avoided making forward-looking commitments as much as is practical, as we have heard from others around the table. Another heavy equipment manufacturer told me they put on hold any new spending in November and December. They have plans in place to muddle through the rest of 2012, and then we will see where things stand in January. After all, with demand so sluggish, the opportunity cost for waiting is about zero at the moment. These kinds of comments suggest that we won’t be seeing any significant cap-ex or labor expansions in the fourth quarter.

Similarly, our financial market contacts reported that many investors and nonfinancial businesses are accumulating cash. Some of them are thinking, well, if we go over the cliff, then the cash can be used to buy a lot of distressed assets at bargain prices. Alternatively, if the cliff is avoided, then the ensuing economic growth should present numerous investment opportunities.

To sum up, I was glad to hear this round that businesses were not turning up the dial with regard to risk and uncertainty. However, at the same time, it seems very unlikely that we will see any meaningful pickup in activity before the first quarter of 2013. I hope we will have relatively favorable resolutions of the uncertainties here and abroad, and economic growth will accelerate, but the jury is still out. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. Since our previous meeting, the data have been mixed—some information suggesting improvement, some suggesting a bit of weakness. Overall, I think the picture remains consistent with the sense I had at the previous meeting: GDP growth is fluctuating around a modestly paced trend.

Indicators from the Fifth District have been somewhat softer than incoming information on the national economy. Our manufacturing index, which first turned negative in June, came up for air in September but turned negative again in October. Our services index has done basically the same thing, although it remains slightly above water now. At the national level, revisions contained in the September employment report leave us with a somewhat brighter picture of the labor market than just a month or two ago. The pace of total payroll employment in the third quarter is roughly the same as the average for this recovery. And so now, in hindsight, the second quarter looks much more like a temporary dip below trend, perhaps payback for the exceptionally strong first quarter.

Another notable feature of the evolving outlook is the emergence of some strength in consumer spending. This is quite encouraging, of course, because any sustained increase in economic growth is going to require that consumers be a little less cautious than they have been. The sentiment readings have been on the upswing, but it is hard to put your finger on just what is driving household confidence right now, and that makes it hard to assess the likely persistence of the recent improvement. It is possible that confidence has been boosted by improving balance sheets and employment. It is possible the deleveraging cycle is coming to an end. It is also possible consumers are getting very excited about the impending relief from political campaigning. In any event, consumers have been the bright spot in recent weeks.

While the household picture has brightened, business spending has been in the doldrums lately. A wide range of our business contacts say that investment and hiring commitments are being held back by uncertainty about policy. In addition, some mentioned a softening of export demand. A South Carolina turbine producer, for example, cited the mess in Europe as cutting into shipments, but also cited unrest in North Africa and the Middle East, which I hadn't heard before. However, there are pockets of reported improvement. West Virginia spark plug manufacturers report expanding capacity, and a Maryland manufacturer of ultraviolet curing systems reports significant shipments to China, just to name a few. Overall, we get a mixed picture from our contacts, it's fair to say.

So it is clear that it is hard to get excited about GDP growth in the neighborhood of 2 percent per year and employment growth in the neighborhood of 150,000 per month. But it is also, for me, hard to see how to improve on these trends with monetary policy. At our previous meeting, I cited work by Howard, Martin, and Wilson that shows this pace is about on par with recovery in other advanced economies from housing-related recessions. I will mention that several of our contacts have told me that, among people they talked to, there are few who think that monetary policy is going to have any effect. I wasn't going to mention that, but I have heard a couple of other reports here. I have a feeling that if there were contacts in my District that would have reported to me what they reported to Presidents Rosengren and Evans, they probably wouldn't have volunteered it to me. I suspect the opposite is true. What this reminds me of more than anything is a line in David Brooks's column today, "We are living in the golden age for confirmation bias." So take that for what it's worth.

Inflation has been running close to 2 percent. I notice the Tealbook is now forecasting inflation close to 2 percent over the second half of this year and is forecasting a decline next year. I think that is kind of an underestimate for 2013. I think we will come in at more like 2, and our asset purchase program tilts the risk to the upside on inflation. That concludes my report. Thank you.

CHAIRMAN BERNANKE. Thank you. President George.

MS. GEORGE. Thank you, Mr. Chairman. Economic growth in my District has slowed since the previous meeting. Notably, District activity in the private sector related to federal spending has dropped, especially in New Mexico. Expectations for retail sales and tourism in coming months have edged lower, with contacts expecting weaker gains in holiday sales compared with last year. And activity in the energy sector has moderated as the drilling rig count for both natural gas and oil dropped in October and expectations weakened. In manufacturing, the Bank's October survey, which will be released later this week, showed a sharp decline in orders, and it was the lowest reading for its composite index since 2009. Many survey participants noted that customers have put orders on hold until uncertainties are resolved. Even so, expectations for hiring and capital spending over the next six months remained slightly positive.

In the ag sector, estimates of crop inventory drawdowns over the next year increased further as drought lingered. But livestock slaughter, somewhat surprisingly, remained modest despite reports of herd liquidations. Combined with weakening Asian demand, herd liquidations could keep a damper on meat price increases.

Housing activity showed strong gains since the previous meeting. Auto sales were also solid and expected to rise further through the end of the year. And our high-tech sector contacts generally anticipate gains going forward. District employment also continued to grow modestly in September.

On net, the national outlook is little changed from the previous meeting with recent negative news on business spending roughly offsetting positive news in other sectors. On the downside, our contacts repeatedly cite uncertainty about the election, fiscal policy, regulation, and Europe as holding back investment decisions. As a result, business spending has continued to be weaker than anticipated. On the upside, consumers appear to be unfazed thus far by the impending fiscal cliff, with both sentiment and light vehicle purchases at multiyear highs. In addition, the housing market has shown signs of strengthening. Risks to the outlook are largely unchanged. In particular, the fiscal cliff remains a serious threat, especially when coupled with slowing global growth. However, should the fiscal outlook become clear, I would expect we would see activity strengthen and build on the improvements in the housing market.

Finally, while food inflation has remained tame thus far, I continue to expect a moderate increase over the next few quarters as a result of the drought. Even though core inflation readings have been soft, longer-term inflation expectations, based on the TIPS market, have moved higher. With an improving economy and our expanding balance sheet, I expect both headline and core inflation will likely remain near 2 percent over the forecast horizon, with the risk that they could move higher if inflation expectations rise further. Thank you.

CHAIRMAN BERNANKE. Thank you. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. Broadly speaking, the Eighth District economy appeared to experience relatively strong growth of real personal income and consumption expenditures over the first half of 2012, compared with the growth seen during 2011. Since then, however, the District economy may have lost some momentum, as growth measured by state-coincident indicators has begun to slow.

Employment growth in the District's 18 MSAs has recently lagged employment growth in the nation as a whole. A few areas of the District seem to be doing relatively well, however. Employment growth and housing activity have been brisk in the Louisville area, for example, and employment growth in Memphis has been on par with the nation.

Anecdotal information from transportation firms in the District seems to provide some cause for concern. The pace of activity in this industry seems to be slowing both globally and in the U.S. These firms are growing cautious concerning the economic outlook. The upcoming holiday season does not look particularly bright, according to these contacts.

Nationally, I have been more optimistic concerning the second half of 2012 than the Tealbook. Thanks to the spurt of relatively optimistic data, the Tealbook's second-half assessment has now moved closer to my own, about 2 percent growth for the period.

My concerns about a global slowdown remain prominent in my assessment of the U.S. economy. However, I have become slightly more optimistic concerning the near-term outlook for Europe. I think the next steps in the EMU drama have a reasonable chance of going smoothly, which may then push the current period of relative calm in global financial markets through the winter. While I had been expecting a period of financial volatility during the September–October time frame, that volatility did not materialize. This has given us a welcome respite from the European sovereign debt crisis, even if the core problems there remain unresolved. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you very much. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. Incoming information since our previous meeting suggests that economic conditions in the Third District continue to improve modestly, although labor markets remain weak, most notably in New Jersey. Manufacturing is showing some signs of pickup after being down through much of the summer. Our Business Outlook Survey index of general activity moved into positive territory in October, its first positive reading since April. Activity had stabilized in September and now appears to be growing again, although new orders and shipments remain flat. The index of future activity remains in solid positive territory. Preliminary readings from our third-quarter South Jersey Business Survey and our service-sector survey also suggest respondents are optimistic about the future.

We continue to receive reports from our business contacts that they need to get beyond the election and year-end before making plans for future spending. This is consistent with the BOS indicating that firms' capital spending plans over the next six months are mostly on hold. My sense is this view is widely held among businesses around the nation, as we have already heard.

The housing sector continues to improve, and our industry contacts tell us that it's a sustainable recovery, they think. House prices and sales are up. Housing permits continue to rise, and multifamily permits are showing particular strength in our region: They are at their highest level since June 2008. Nonresidential building has shown less improvement than the residential sector, but conditions remain better than they were a year ago.

News from the labor markets, as I indicated, is less positive. Conditions remain weak in the region, especially in New Jersey. Year-to-date payroll employment has grown at an annual rate of 0.7 percent in Pennsylvania, New Jersey, and Delaware combined compared with 1 percent in the nation. Unemployment is 1 percentage point higher in the region than in the nation but this largely reflects the fact that New Jersey is 2 percentage points higher than the nation. Indeed, at 9.8 percent, New Jersey's unemployment rate exceeds its recession high, one of the few states in the nation that has that dubious distinction. The unemployment rate in

Pennsylvania is 8.1, and in Delaware it is 6.9. We are watching labor market trends carefully in the region, and we hope that some of the weakness in New Jersey reflects problems with the data, which many suspect, but we will wait until coming reports. Like others have indicated, almost all of our contacts stress that they will be using temporary employees to the extent they need to hire in the short run and that they are not willing to make firm commitments until after the election and some clear indication of how health care and taxes and other things will affect their permanent hires.

Among many of my contacts, I detected a distinction between those large companies who are heavily involved in international trade versus those that were more domestically focused. Interestingly enough, the ones that were more domestically focused tended to have a somewhat better outlook than the ones that relied heavily on exports, reflecting probably the weakness in the world economy going forward. The domestic firms tend to be smaller, but they were actually more optimistic than the large firms were. I thought that was quite interesting.

I also noted comments from some of our banking directors about the continued growth in some areas of mergers and acquisitions, particularly acquisitions by private equity firms and the very large multiples that were being purchased in the marketplace. Some bankers and others expressed concern about that, despite the fact that the prospects for growth continued to be somewhat muted.

Regarding the nation, incoming data have not caused me to change my outlook for a continued moderate recovery. It is still about where it was before. The slow pace of that recovery is what is to be expected I think, given the size and nature of the shocks that have hit us. Again, consistent with our business comments, like President Evans, I don’t expect much acceleration between now and the end of the year. I do not take this outlook, though, as indicating that our stance of monetary policy is inappropriate or that monetary policy has been insufficiently accommodative over the course of the recession. It takes time for the recovery to move back to equilibrium, with the deleveraging, which may be improving, we hope, after the severe shocks we have had.

Our colleague President Bullard has made the case that policy seems to have been well calibrated to a price-level target over the past 10 years, which theory suggests is the effective way of implementing policy when at the zero bound. In addition, most of the rules reported in Tealbook B suggest policy is about right, and that is without making any adjustments for the LSAP programs. The risk assessments in the Tealbook—and here I am referring to page 96 of Tealbook A—show that in the BVAR, the Bayesian vector autoregression, the risks are in fact tilted to the upside, not to the downside. So there is more probability of an upside outcome than a downside one. Now, of course, the risk assessment in that model does not necessarily take into account some of the more intangible risks that many of us are factoring into our forecast. But it does suggest that the underlying data history is more sympathetic to potential upside surprises.

Many around the table have spoken at different times about the difficulty in determining the longer-run equilibrium level of unemployment. We acknowledged those challenges in January when we explained why we do not have a numerical employment target. These same types of conceptual and measurement issues plague our measurement of output gaps. The Congressional Budget Office currently estimates a large gap between actual and potential GDP. But many economists are skeptical about our ability to estimate potential output reliably in real time, and with good reason. In fact, the CBO tends to revise down its path of potential output—both the level and growth rate—around recessions. For example, after the 2001 recession, real output never returned to the level of potential implied by the potential growth rate the CBO was projecting right before the start of the recession. If there had been no revision in potential output, it would have meant that the average gap from the start of the 2001 recession through the start of the 2007 recession would have been minus 3.4 percent. And I have adjusted this calculation so that the gap is zero at the start of the 2001 recession.

But we don't believe that we were running a large negative output gap during those boom years. We repeated their calculation with the latest vintage of potential output. Potential output has been revised downward showing that there is now a positive output gap near the end of the boom years. Indeed, what happened was potential output was revised down and eliminated the gap. This should give us some pause about expecting to return to the projected path of potential from the recent peak. Our gap is likely to be revised downward as potential is revised down. In other words, part of this shock was permanent, which is consistent with the view I have had for a long time based on some work on stochastic trends I did nearly 30 years ago with Charles Nelson.

Indeed, the staff estimates of the size of the gap continue to shrink. In the January 2012 Tealbook, Board staff estimated the output gap at the end of 2011 to be minus 5.7 percent. In the latest Tealbook, that 2011 gap is now estimated to be minus 4 percent. That is, the end-2011 gap is 30 percent lower today than it was in January. So, in retrospect, the gap is not as large as we thought it was. Did we overreact in January when we extended our forward guidance? My point is that, looking forward, just since the previous Tealbook, the gaps for 2012 and 2013 have been revised down about ½ percentage point. I am curious as to how much further they will end up being revised down by the end of January.

As the output gap has narrowed, we have seen little change in the unemployment rate forecast, but upward revisions in the inflation forecast. We had a very useful discussion at our

March meeting about the influence of the estimated output gap on the inflation outlook. What we learned is that the output gap is having less of an effect on inflation, while expected inflation seems to be having more of an effect. That is, the coefficient on the gap in the expectations-augmented Phillips curve is quite small. This suggests two things to me. First, we need to be cautious in relying on resource slack as a reason to be confident inflation will remain subdued going forward, and that is even independent of the measurement problem. Second, we have to be particularly attuned, then, to changes in inflation expectations and evidence that expectations are becoming less well anchored. So far, those expectations have not unraveled on us. How much longer or harder can we push on accommodation before we consume our credibility in that regard? This puts even more burden than usual on clear communication about our policy intentions.

I have some concern that the open-ended nature of our LSAP program could have destabilizing effects on inflation expectations. And as we have been discussing, those expectations did rise, at least as far as the TIPS markets, since that action. I certainly hope that all things will play out smoothly, and that we will be able to exit gracefully. But I don't think we can rule out that things won't necessarily move in a smooth, continuous fashion. As the time for liftoff approaches, we could see a significant jump in long rates, which could potentially be very disruptive to the markets and the economy and greatly undermine our exit plans. Going forward, we need to keep in mind our exit strategy as we make our policy decisions. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Mr. Chairman. I would characterize the data since the previous meeting as having been slightly better than expected. In particular, I would highlight motor vehicle sales, retail sales, housing activity, the household employment report, and the consumer confidence indexes. That said, we shouldn't overstate the degree of improvement, because the improvement in some of these areas has been offset by weakness in exports and business fixed investment. In New York, we are still looking for real GDP growth in the fourth quarter to be only about 2 percent annualized, ex drought effects. Moreover, I emphasize that the meeting-to-meeting wiggles that we have seen in the activity data pale relative to the uncertainty surrounding resolution of the fiscal cliff and the euro zone crisis.

On the fiscal cliff, we repeatedly hear from business people that the uncertainties about tax and spending policy are causing them to be very cautious about hiring and investment decisions. I don't really have a good idea how to quantify how important this is as a current negative effect on activity, but I do think it is meaningful. The good news of that, of course, is that if the fiscal cliff were resolved in an intelligent and definitive way, you could actually see activity that had been deferred taking place next year, and you could actually see a positive bounce in activity. So there is a chance for a positive growth surprise next year. Conversely, unfortunately, if the political process for dealing with the fiscal cliff goes badly, both in terms of the amount of fiscal restraint hitting the economy in early 2013 and the negative consequences on confidence from the ineffectiveness of the political process to reach a solution, then I think the outlook for 2013 would be much worse than my baseline forecast. Relative to the Tealbook, I would be considerably more pessimistic. I think the multipliers on fiscal policy are higher, given we are at the zero lower bound. And the confidence effect is another channel that, while difficult to measure, would likely have a real consequence. And there are probably other channels that we are not fully incorporating.

The main point I want to emphasize on the outlook is we just have to see what transpires before making significant judgments about what the outlook is for 2013. That is why I think a status quo approach right now, in terms of the economy and policy, is the right one for this meeting. What we have learned since the previous meeting is essentially trivial to what we will learn over the next few FOMC meetings.

On Europe, the news has been mildly better. First, I think the political leadership in Germany does not want to rock the boat in terms of the European Union and the run-up to next fall's election. That reduces the chances somewhat of an early forced Greek exit that could destabilize the European Union. It also means the rhetoric will probably shift more in the direction of the need to build institutional arrangements consistent with broader European integration over time. Second, there finally is some debate about whether the pace of fiscal consolidation is, in fact, appropriate. I thought the IMF's recent *World Economic Outlook* was pretty interesting in the sense that it put forward some cross-country evidence that the fiscal multipliers were considerably higher than it had thought before—close to 1. Although the IMF does not yet appear to have won the day in terms of this argument, it does provide some intellectual cover for doing fiscal consolidation in Europe over a longer period with a much less steep gradient.

In a more neutral vein, Spain seems to be playing Hamlet about whether to negotiate an MOU with the troika concerning its adjustment programs. Such an MOU would eventually enable the ECB to purchase Spanish sovereign debt in the secondary markets for their OMT program. Having this backstop in place would be far better than the current situation in which there is uncertainty about whether the backstop will be put in place as well as about how fast that can actually take place. After all, the ECB backstop only becomes effective after a country negotiates the appropriate MOU. And this is approved by all of the relevant EU nations and the parliaments of three countries in particular. Given that that is a pretty elaborate process, one could not be sure going in about how it would end up. And it is certainly not going to be something that happens very quickly. The good news is Spain is thinking about things. The bad news is they haven't yet reached a definitive decision.

At the same time, if you look at the economic outlook in Europe, it remains pretty grim. The GDP forecasts in Europe are still coming down. For example, the IMF cut its forecast in October for the European Union to 0.8 percent for next year, down from 1.4 percent in their April forecast. That is on a fourth-to-fourth basis. What was interesting was the reduction in their forecast for the European Union was considerably larger than the reductions they made for other major developed economies, such as the United States and Japan.

First, obviously, the absence of growth undermines the ability to achieve a country's fiscal objectives. In fact, in the past 24 hours, we have gotten reports from Spain that suggests it is going to miss this year's 6.3 percent deficit target. So when it misses the target, that, in turn, undercuts its credibility and frays the political support necessary to take additional measures.

Second, the movement toward greater integration is moving only very slowly. In fact, on that front, the German elections may actually slow down the process further rather than speed it up. In particular, on the banking side, the scope of the ECB mandate and the speed with which this mandate will be implemented remain uncertain. So as I see it, we have seen this movie before. When markets calm down, forward momentum toward integration slows, and countries are less willing to take tough actions, especially in terms of structural reforms that would improve competitiveness. This is happening again.

Third, political support for fiscal austerity among the peripheral countries does remain under pressure. Portugal is a good example, where it proposed some changes that were very much voted down by the voters. So I think the euro crisis isn't going to go away. Getting the more troubled countries to the point where they can demonstrate sustainable fiscal paths and be assured of market access at reasonable interest rates still seems to lie far off in the future. And the resources formally designated by the core countries to erect credible backstops could easily prove inadequate relative to the potential challenges ahead. So it is not clear to me what will provoke the next lurch back toward greater anxiety and financial market and political turbulence, but I think the odds very much favor that such a lurch back will be forthcoming. And, in fact, it may already be starting.

Finally, on a brighter note, the pressures on some of the large, vulnerable U.S. financial institutions do appear to have moderated. Although earnings and returns on equity generally remain depressed, the fact is that the companies appear able to make a little bit of money even in a difficult environment, and that is reducing concerns about their long-run viability. For example, Morgan Stanley, which was a concern because it had its credit ratings downgraded by Moody's in June to a short-term rating of P-2, made some money in the third quarter, abstracting from some of the debt valuations. A good chunk of the business that it lost in the second quarter as people pulled away from them because of its credit rating looks like it actually came back. It's interesting that Morgan Stanley's five-year CDS spreads recently came down to about 200 basis points from levels that were over 600 basis points a year ago, despite the fact that the U.S. growth outlook is pretty weak and you've still got the euro zone crisis. This doesn't mean that, obviously, everything is fine and it's out of the woods. If Europe were to blow up, then we would likely still have a big problem. But it does mean that investors' confidence in the large

U.S. financial firms has improved. And I think that is a positive development that is worth taking note of. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Yellen.

MS. YELLEN. Thank you, Mr. Chairman. The information that has rolled in over the past few weeks has been puzzling. To my mind, the jury is still out when it comes to judging its implications for the economic outlook.

On the positive side, data pertaining to the household sector have generally been heartening. Spending has picked up noticeably. And according to the preliminary October Michigan survey, consumer attitudes turned decidedly rosier. A sizable fraction of consumers now judge their financial situation more favorably, and they seem blithely unperturbed by the impending fiscal cliff. More households expect good economic conditions over the next year and the next five years, and more anticipate that the national unemployment rate will move down. The same improvement in confidence since mid-September is evident in the daily Gallup poll, although, interestingly, it is confined to Democrats and Independents. Incoming data on housing has also been upbeat. In contrast to this encouraging news, data pertaining to the business sector reveals disconcerting trends. We have seen a worrisome decline in core capital goods orders and sluggishness in manufacturing output. Moreover, surveys suggest that confidence among businesses is weak. They seem preoccupied with the fiscal cliff and their prospects for earnings and sales, and these concerns are impeding hiring and investment. As Narayana and Richard noted, in the NFIB, for example, small business hiring plans recently plunged. The latest Conference Board measure of CEO confidence reveals greater pessimism about both current conditions and the short-term outlook.

The latest employment report contains similarly conflicting signals. On the one hand, the unemployment rate declined notably, which is a welcome and favorable development. Some of the decline may conceivably reflect statistical noise, but the fact that the seasonally adjusted unemployment rate in the Gallup poll also declined by a similar amount between mid-September and mid-October supports the view that there is signal in this decline. The Gallup poll is a completely independent survey that reaches around 30,000 households over a 30-day period. In contrast, private nonfarm payroll gains were lackluster. The magnitude of job gains in the household survey was eye-popping, but as Glenn Follette discussed yesterday at our pre-FOMC briefing, when adjustments are made to put the household survey measure on the same conceptual basis as the payroll survey, the two figures come into close alignment at around 100,000. In sum, more-recent data point to some improvement. I don't think we have yet seen anything that qualifies as a substantial improvement in current labor market conditions or in the outlook going forward. I, therefore, think that at our December meeting, we must be prepared to continue our MBS program and undertake additional longer-term asset purchases to replace those now associated with our maturity extension program.

We reaffirmed in September that we would monitor both the efficacy and costs of our asset purchase program. In this regard, it appears that our September announcements were successful in meaningfully shifting market expectations and yields. Simon summarized some of the effects we have seen. At this point, the modal date for the end of our flow-based purchase program is early 2014. And as he noted, a number of dealers interpret conditions that would constitute a substantial improvement in the labor market outlook as a decline in the unemployment rate to around 7 percent, coupled with a sustained period of above-trend growth in payroll employment.

Our September announcement was followed by noticeable declines in MBS yields. Stock prices rose and the exchange rate declined following the announcement by amounts that roughly accord with the staff's earlier expectations. Nominal Treasury yields, in contrast, did not fall following our announcement, but I do not necessarily interpret this as a negative signal. First of all, the roughly 10 basis point increase in measures of breakeven inflation over the next week reversed only part of their precipitous decline in the summer of 2011. That decline was certainly unwelcome, most likely reflecting flight to safety and heightened concerns about negative tail risks. Furthermore, to the extent that the recent increase in breakeven inflation reflects greater confidence in the durability of the recovery and lower odds that we will undershoot our inflation target, I would interpret the response of nominal Treasury yields as fully consistent with the intent of our statement, provided that longer-term inflation expectations remain well anchored at levels consistent with our price-stability objective. And I interpret the evidence from both TIPS and recent surveys as indicating, indeed, continued confidence in our price-stability commitment. In this case, modestly higher inflation expectations actually facilitate the attainment of our employment goal. After all, in modern macroeconomic models, inflation expectations are a key channel through which monetary accommodation stimulates growth. Higher inflation expectations lower real interest rates, thereby boosting spending. Indeed, TIPS yields at both the five-year and five-year-forward horizons declined during the day and week following our announcement.

Overall, then, I am very pleased with how markets have interpreted our actions in September and responded to them. I will discuss the policy implications during our go-round tomorrow.

CHAIRMAN BERNANKE. Thank you. Governor Duke.

MS. DUKE. Thank you, Mr. Chairman. My outlook for the economy hasn't changed much since our previous meeting. So in light of our actions at that meeting, I prepared for this one by taking a deep dive into the mortgage business.

I strongly believe that the mortgage lending market is the only remaining credit headwind that is retarding economic growth and that it is in mortgages and housing that monetary policy still has some potency. But I believe that it will be necessary to maintain a steady level of rates for quite a long time before that level works through the housing market, and that significantly lowering the rate might actually be counterproductive in terms of the degree to which any given level of rates finds its way through to a wide range of potential home purchasers. Transmission in mortgage markets is taking longer than normal and longer than in other credit markets as a result of three somewhat operational features of this market that I would like to discuss in some detail.

President Fisher asked a question about the primary–secondary spread. The historical data seem to point pretty clearly to a relationship between the refinance index and the primary–secondary spread. This is generally attributed to capacity constraints and lenders' efforts to regulate demand. If so, the spread itself should actually attract additional capacity. But I think that one caution in interpreting the recent data would be to remember that a steady release of new refinancing demand has come as rates have steadily gone lower and as changes have been made to government programs such as HARP2, so that demand keeps getting refreshed.

In addition, the originators are much less willing to add capacity to meet refinance demand than to meet demand for purchase mortgages, as President Lockhart found. It is because they view refis as likely to be only a temporary increase in business. So for the largest originators, the current volume is 70 to 80 percent refi business, and they believe that their current capacity is sufficient to work through the refinance demand over the next six to nine months.

Moreover, when their capacity is strained, the most experienced lenders are already fully employed, making it difficult to add experienced staff. And this difficulty is exacerbated in the current environment as concerns about putback and regulatory risk have made the lending process more exacting. These same risks increase the cost and the time required for every origination, again increasing the strain on current capacity.

I suspect the same capacity issues that create wider pricing also contribute to tighter standards. We have already seen standards ease in the C&I market and the auto market, as banks' appetite for assets has sharpened the competition. So once the easy refinances are done and excess capacity starts to show up in pipelines, then I would expect banks to reconsider the credit overlays that are currently tightening conditions for the lower-quality borrowers. If you can fill your basket with perfect apples, there is no reason to sort through the ones less than perfect to find some that are satisfactory. Furthermore, I think the real economic impetus for mortgage rates comes from home purchases and increases in house prices rather than refinancing, as refinancing mostly shifts cash flow from lenders to borrowers with only small pickups in net spending. For these reasons, I think it is actually more productive to hold rates at the same low level long enough to work through the refinance pipeline. That is, to keep lowering rates means sending top-quality borrowers back through the refinance line again. To be clear, I don't favor allowing rates to rise, but I don't see much point in lowering them either.

The second reason why I believe it is going to take a long time for the effect of a given level of mortgage rates to work its way into the economy is that the appraisal process creates some real friction in the adjustment of house prices. Two commonly used measures of the appropriate level of overall house prices are an affordability index that compares median income levels to debt service requirements for a median price home and a comparison of debt service to rental rates for a comparable property. In both measures, it is the mortgage interest rate that drives the debt service calculation and, thus, house prices.

These factors certainly influence the price an individual purchaser would be willing to pay, but it is the appraisal that determines the price a purchaser who needs financing is able to pay. Credit-dependent borrowers are limited by the interaction of loan-to-value requirements of lenders and the property value determined by appraisal. Residential appraisals use only comparable sales to derive price. They don't consider the income approach or replacement cost. So the price adjustments must work their way through less credit-constrained actors before they will show up in comparable sales. For example, investors, who tend to bring more cash to a purchase, benefit when the appraisals used for mortgage approvals don't consider the alternative cost of renting and potential income from rents. So they are able to realize higher rental returns by purchasing at prices that are higher than indicated by the comparable sales analysis but below the value of the rental alternative. In much the same way, as long as the price of existing homes is well below replacement cost, builders are reluctant to build because the potential buyers can't get appraisals high enough to allow them to purchase the homes at a profit. Even in the comparable sales analysis, appraisers consider the direction of prices in the market. So if prices are falling, the price of an older comparable sale is marked down. And if prices are rising, the reverse happens. Thus, the direction of house price changes reinforces momentum.

Price-level shortcomings are also exaggerating the effect of distressed sales on prices. Even though the appraisal standards direct appraisers to consider the condition of a property in distress in the transaction, most appraisers don't really have the tools to do so. The level of distressed sales recently has not only been extraordinarily high, but in some markets, distressed sales are the only comparables that meet the distance or time-since-sale requirements necessary to be included in the appraisal.

Over time, if demand is strong relative to supply, as it seems to be now, those buyers who are less dependent on financing, who can pay more to win a property, will do so. And then, as those sales are recorded, they will increase appraisal values and allow the pool of potential buyers to grow, as borrowers with less cash receive appraisals high enough to justify their loans. But I believe we are only beginning to see the current level of mortgage rates work through the higher prices, and I expect prices to still climb substantially faster than in the Tealbook.

Finally, I think we must be quite vigilant to ensure that regulatory policy doesn't unnecessarily restrict credit and work against improvement in the housing market. Risk weights in capital rules, QM, QRM, servicing standards, lender compensation rules, and escrow requirements all use various loan structures such as balloon payments, pricing over GSE prime, or underwriting characteristics—such as "bright line" debt-to-income ratios—as proxies for problematic practices. But I fear that these proxies will generate an alarming number of false positives and will close out borrowers or properties with nonstandard features from credit as those who make nonstandard loans find it increasingly difficult to maintain compliance.

The combination and complexity of all of these new rules seems particularly likely to close smaller banks out of the mortgage lending business. Using HMDA data, Call Report data, and Y-9 data, I was able to piece together a picture of the role of community banks in the mortgage market, and they are more important than you might think. Consider these factoids: According to HMDA data, the number of mortgage originations has dropped from 11.4 million in 2004 to 5.9 million in 2011. And even though it might seem like the mortgage lending market is more concentrated at the top, the share of loans originated by large banks was 52 percent in 2004, and it actually dropped slightly to 49 percent in 2011. The nonbank share of originations was 32 percent in 2004 and fell to 27 percent in 2011. Community banks and credit unions have picked up the slack. With only 16 percent of originations in 2004, these small institutions were booking nearly one-fourth of all originations by 2011.

Data from the Call Reports and the Y-9 filings show a similar pattern in originations for sale, but these data are only available back to 2007. In the first quarter of 2007, small bank holding companies accounted for less than 10 percent of mortgage loan sales. However, by the second quarter of 2012, these institutions had almost doubled their share, accounting for nearly 20 percent of sales. And, indeed, the net income from origination for sale has attracted new entrants. The number of banks reporting any income from sales, securitization, or servicing of mortgage loans has shown a substantial increase since 2007, with much of the entry occurring as the recession ended in the first half of 2009. Recent quarters have seen the entry of about 30 additional banks. But because the new entrants are small, it will take a lot of them to make up for any pullback by the larger players.

It does look like mortgage sales activity makes more of a difference to small banks than large ones. While an analysis of relative profitability of all banks is not conclusive, comparing banks under $10 billion with income from sales, securitization, and servicing of mortgages with those without such income reveals an ROA of 1.26 compared with 0.92, and an ROE of 11.14 compared with 8.61. So community banks are a small but not insignificant part of the loan origination market. The economics for these institutions encourage entry, and they are able to increase capacity on the margin. In addition, not to be overlooked are the loans held on the balance sheet rather than sold, which are a substantial fraction of small banks' originations.

Yield data would indicate that community banks get higher rates than larger banks, and they reportedly make widespread use of balloon payments—two common features used in mortgage regulation as indicators of subprime lending. But delinquency performance of one-to-four family loans in banks under $10 billion consistently surpassed those of even prime fixed-rate loans over the past five years, validating the claim that community banks are responsible in their underwriting and that they might indeed be an important source of nonstandard lending. So even though regulatory issues are not, strictly speaking, part of monetary policy, I think they will have a strong influence on the structure of the mortgage market, the cost and availability of mortgage credit, and ultimately, the effectiveness of our policies in improving economic performance.

Mr. Chairman, I realize I went over what would be expected from a lightning round, but I promise to hold Governor Tarullo to his promise [laughter], and to hold my own comments very short tomorrow. Thank you.

CHAIRMAN BERNANKE. Thank you. That was very high value. Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. I have four points to make in this soon-to-be-enforced two minutes. [Laughter] My first point relates to the basic picture. The economy is still slogging along, which is to say going forward but without a whole lot of traction. This is really just a variation on the basic metaphor, which is that I've noticed that each time we have a little burst of data that looks good we get a little bit of growth in the economy. Then, the next quarter it's a different data stream that looks good. Instead of one area that gets some traction and then allows other areas to build off of it, we seem still to be bouncing around a little bit in the economy, which I think is why in the end we still have these disappointing growth rates.

My second point is on housing, which is an area that does seem to be getting traction, as several of you have mentioned, and I just note that there is still an awful lot of regional variation in both sales and pricing. I think the situation was well put by the chief economist for Zillow this morning when it released its latest housing price index. He said, “The housing market is on the mend, but the housing bottom will be a protracted one.”

My third point relates to risks. I think, as I think most of you do, that downside risks still outweigh upside risks by a substantial margin, but I guess I do think that the downside risks have actually receded a bit since the September meeting, particularly on the foreign side. It seems to me—at least in the near term with respect to both geopolitical and economic risks—things are a little less dark than they were six or seven weeks ago, although there’s no guarantee that three or three-and-a-half or four months from now they will not darken again. Obviously, there’s been no change on the fiscal situation domestically.

Fourth and finally, with respect to the labor market and, specifically, how to judge improvement in the outlook for the labor market, I would make a pitch now for an emphasis on what I would term “indicators of dynamism” in the labor market. It does seem to me as though the monthly job creation numbers are probably the single best—though by no means the only good—indicator for us to be looking at. The unemployment rate, as mentioned in the earlier go-round, can vary some even as things are improving. If job creation pulls people in from the nonparticipating group into the participating group, the unemployment rate may not go down much even though there actually is a good deal of dynamism in the labor market. I like the JOLTS report as well because it gives a sense a dynamism, looking at hiring, openings, and separations together, but I think it’s a little harder to rest a lot on JOLTS because each of those factors individually can vary a good bit for idiosyncratic reasons from month to month. So I would put the most emphasis on the net job creation numbers, and it’s worth noting in this regard that only one out of the past seven months has had what could fairly be characterized as a good job creation report, and even that one—which was the 180,000 in July—was hardly spectacular.

I would hope that between now and December when we have to make an evaluation, we can be bouncing these potential criteria back and forth off one another—virtually, if not in person. But as I said, I would like to put in a pitch for the sustained increases in job creation, which, to me at least, would have to be significantly north of 150,000. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Raskin.

MS. RASKIN. Thank you, Mr. Chairman. Given the constraints of time I'll focus my comments on the household sector only. Like many of you, I'm encouraged by some of the good news that we're seeing there. The fact that households spent readily in September seems like a positive signal. Of course, we've seen strong spending months before in this recovery, as recently as earlier this year as a matter of fact, and those weren't a sign that consumer spending was turning up substantially. But maybe the rise in spending seems more sustainable this time. Why might this be?

For one thing, as noted by President Kocherlakota, consumer sentiment has improved markedly. The jump in sentiment has lasted two months now, and it seems to be pretty broad based. Sentiment about current conditions has improved. Concerns about unemployment have lessened, and confidence about future conditions has picked up. Indeed, even consumers' expectations about their income in the coming year, a measure that had stayed stubbornly low throughout this recovery, has moved up noticeably.

While I'd like to think that this upturn in confidence is a result of the September policy statement, the timing of the September jump might throw a little warm water on that notion.

However, the overall improvement in some of the more Main Street measures that monetary policy does tend to affect, like equity prices and home prices, does enter into households' assessments of conditions.

The more-positive readings on the stock market and the housing market suggest that the upward movements in confidence may have some staying power. Interestingly, to the extent that we cannot explain the rise in confidence, that might be even better news. Until recently, sentiment had been surprisingly weak, according to the Board staff, a factor that likely has contributed to the sluggish pace of spending. But in October for the first time in about a year, sentiment has become surprisingly strong. This seems like just the kind of news we would need to start seeing if things were really going to turn more decidedly positive.

Another area of encouragement I'd like to mention is the rise in home values. As homeowners see their net wealth and thus their lifetime resources increasing, this is likely to support their spending, at least a little bit. And as I mentioned, rising home values are likely improving households' economic outlooks and their expectations for the future. In addition, of course, once potential homeowners stop fearing that they might buy in a falling market, home purchases become a better bet.

But I think there's yet another way that the rise in house prices could be helping the recovery. Since the start of the year, 1.3 million borrowers moved from having negative equity in their homes to having positive equity. At the end of the second quarter of 2012, underwater and almost underwater mortgages accounted for 27 percent of all residential properties with a mortgage, down from close to 30 percent at the end of last year. While this is still a very high number, it represents a nontrivial number of households who, if they can access the ability to refinance, could take advantage of the current low mortgage rates to create lower monthly payments. The potential savings are not huge yet, but this is another area where things are starting to move in the right direction. Of course, as President Lockhart and others have noted, tapping into low mortgage rates demands a strong analysis of various credit constraints and consensus on how such credit constraints could be alleviated.

In these observations I've mainly been focused on the changes I perceive in economic conditions in the household sector, but we shouldn't lose sight of the fact that the level of economic activity is still really lousy. It's easy to get excited that conditions may be finally starting to improve, but we still have a long, long way to go before we can have any sense of satisfaction with the economy. Nonetheless, it's nice for once to be able to see some signs of encouragement in the household sector.

CHAIRMAN BERNANKE. Thank you. Governor Stein.

MR. STEIN. Thank you, Mr. Chairman. In thinking about the outlook, I've also taken note of some of the same emerging bright spots that others have: retail sales, consumer confidence, and housing starts. I've been wondering how our policy actions from the previous meeting, particularly the MBS purchase component, might affect things in these areas going forward. Like President Rosengren, I was very struck by the market response to our September 13 announcement and, in particular, how much MBS rates moved relative to Treasuries. There are different measures of it, but one number that I remember was something like 40-plus basis points on the option-adjusted spread of mortgages to Treasuries in the first week after the announcement. That's a big, big number.

To caricature what has happened—you could have had two theories going in. One theory is that all that really matters is how much duration you're taking out of the market and whether you do it by buying Treasuries or MBS is to some extent, secondary. That's how the FRB/US and other models that we've used to think about it have approached it. The other extreme, and of course, I'm just caricaturing, is you have a very highly segmented market, and there's essentially a flypaper effect: Where you touch it is where it's going to stick. And it seems like the data—when there's this kind of outlier in the picture—have been trying to speak in favor of segmented markets, not as a general statement about the world, but at least in this particular case at this particular point in time.

This leads to the question as to whether this market segmentation is something we should think is a good feature or is something that we didn't really expect, and it means that things are not working out the way we intended and maybe we should think about tilting our mix back toward Treasuries because it's somehow not working the way we expected. You could argue it either way. My guess is if you're a FRB/US literalist, you might say this is not the best thing in the world because of the lower elasticity of substitution—sure, I'm moving MBS rates by more, but that has to come at the expense of moving other rates by less, and housing is only a small sector of the economy, and maybe you'd rather have 10 or 15 basis points on the Treasury than 40 basis points on MBS. You just don't get enough if you think about the 40 basis points of MBS in a model. However, if you adopt the view that I'll associate with President Fisher, which is that the nonfinancial corporate world is probably pretty insensitive to further movements in the rates that they face, then market segmentation is in some sense your friend because it's allowing you to focus your ammunition on a part of the world that is arguably more sensitive to financial conditions. Even with the partial pass-through from the secondary to the primary, we have gotten a significant move, and as Governor Duke suggests, we may, with sustained pressure, hope to see more. And even if those things don't feel like a big thing in the model, I'm a little bit with Eric in thinking that right now the timing is such that a push in the right direction on housing might have a bigger effect than it otherwise might in other circumstances. My general inclination is to think that we've actually gotten a little bit lucky with MBS purchases in the way that they've played out, and as a result, I'm a little more optimistic about the outlook in general and especially about those components of the outlook that are most closely connected to lower mortgage rates.

Now, of course, this is all contingent on two things, and two things that are a little hard to know. One is you have to believe that this effect on MBS spreads will be durable, and when you start thinking about very low elasticities of substitution, it may be that that elasticity is low in the short run. But of course, in the long run, if there are these big movements in spreads, people are going to start hunting for yield elsewhere, and things may look different at a one-month horizon than they do at a one-week horizon. We have seen some retracing of the effects. I don't know how to quite think about this, but this a very important thing for us to think about in terms of the efficacy of the policies: Where is it going to stick at a more intermediate horizon? And then, of course, second, there's the whole issue of pass-through to the primary rate. But I think if we do okay on both of these dimensions, and we push on this for a while, I can imagine that we would see some further positive momentum on consumer spending and housing.

CHAIRMAN BERNANKE. Thanks. Governor Powell.

MR. POWELL. Thank you, Mr. Chairman. While I see some improvement at the margin, it still feels to me like a world with 2 percent inflation and 2 percent economic growth, which is obviously not strong enough to reduce unemployment. Like others, I found a dichotomy between the household sector, where there's been a fairly strong run of data, being to some extent canceled out by the weakness of the business sector. It has been well covered by many around the table, so I'll skip to the punch line on that dichotomy to say that it's not easy to generate a story that accounts for both the strength in households and the weakness and uncertainty in business. I think the hope has to be that a good part of the business weakness comes from the decline in global trade, as President Plosser suggested, and that does seem to be part of the story—the overall weakness in Europe and Asia and the decline in global trade—rather than activity here at home. Or it could be that businesses are seeing weakness that the households haven't seen yet but soon will or vice versa. I guess time will tell.

I will just mention a couple things that I thought were interesting in my conversations with investors. First, a number of hedge fund managers that I talked to are now saying that thanks to the ECB, sentiment has turned markedly more positive regarding Europe after the events culminating in the OMTs at the end of the summer. For example, the founder of a large multi-strategy hedge fund told me that it had gone heavily to cash at the time of the Greek elections in June, and his firm now believes that post-OMT the bad outcome is really off the table for now and it's safe to invest and it's safe to stay invested, despite expectations of bumps in the road. That's a big change in risk sentiment in the past 60 days, and it's much broader than just the handful of firms that are buying peripheral sovereign debt, the courageous few. So I think it's really a central bank stepping in and cutting off tail risk.

In that light, the second thing I would share is that a number of investors said to me in the past few weeks the same phrase, which is, "Well, your policy is working," but what they meant in context was, "Well, you want people to take some risk, and they are." And one place that is showing up big time is in lower-quality fixed income. There was not a lot of pass-through in our September announcement to Treasuries or to super high-grade corporates, but the pass-through to BBBs and to high yield was very strong, and it does speak of a reach for a yield. Investors are clamoring for leveraged loans and high-yield bonds, anything with a decent yield.

So that part of it is working. In fact, a number of investors—this is a bit of a cautionary note, more than a bit—say that deals are being done in the high-yield market on terms that are very similar to the bubble terms of 2005 to 2007. You've got the return of dividend deals, and in a dividend deal, ownership doesn't change hands, but fixed-income investors fund a large one-time dividend to private equity investors, and it typically involves structural subordination, peak leverage levels, payment-in-kind bonds, and no covenants. So this is a very peaky, bubbly structure, and we're seeing more and more of those.

In the new deal market, there's a large industrial deal that I'm pretty familiar with that is being done at 6¼ times leverage in the next few weeks. It's rated CCC by both Moody's and S&P. In most ordinary markets there is no CCC market for paper, and this is being done at 6¼ times leverage with a weighted average cost of capital of under 6 percent. So private equity firms are more focused on the level than they are the spread, and under 6 percent for that kind of paper is an all-time record, again, very reminiscent of a bubble period.

So demand for leveraged loans and high-yield bonds is far in excess of supply. This can be expected to continue. On the bright side, you do not yet see the return of that leveraged mark-to-market structure that was so unstable in the crash, and you also don't see very large deals getting done yet. There's sort of a cap around $5 billion, and you don't see dealers committing their balance sheets. I think all three of these things are positives for holding down the systemic risk aspects of this emerging bubble, if you will. But we've seen the competitive dynamic develop into a race to the bottom before, and so these markets are definitely worth keeping a close eye on. I pass that along. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you very much. Bear with me for just a minute. I have a summary. I will quickly do that, and then we'll adjourn.

The intermeeting data were mixed. The outlook for economic growth remains modest, perhaps around 2 percent and accelerating slowly. Given the slow pace of growth, unemployment should decline only gradually. Uncertainty and risks remain high. As in earlier meetings, participants cited conditions in Europe, China, and other EMEs, and the fiscal cliff, but downside risks may have receded a bit. Inflation appears stable with balanced risks.

In the household sector, consumers appear more confident about both their personal and broader economic conditions, for example, in the Michigan survey. Household spending is stronger in most Districts. Progress has been made in deleveraging, and households expect higher income. Auto sales are up in part because of low interest rates. Housing and construction have strengthened also in part because of the low cost of funds. House prices and sales have risen with lots of regional variation. Higher home prices will support consumption spending and more mortgage refinancing. However, there are still barriers to mortgage origination, such as capacity constraints, tighter standards, appraisal issues, and regulation.

Some improvement has been seen in the labor market, including more hours and lower unemployment. Payroll employment data have been revised up, although recent payroll reports have been only fair. Health care costs may lead to more part-time and temporary employment.

Business conditions are soft, reflecting weaker global growth and lower-than-expected export demand. Firms focused on domestic markets are somewhat more optimistic. Firms are accumulating cash. According to NFIB and CEO surveys, business confidence remains weak, affected by ongoing uncertainty about fiscal policy, Europe, and the global economy. Firms, therefore, are taking a wait-and-see attitude. Cap-ex has diminished for that reason, as has hiring. The energy sector has weakened, and manufacturing shipments and orders are mixed. Herd liquidations are keeping meat prices down; high tech anticipates gains. Fiscal policy, even without the fiscal cliff, remains a headwind for the economy. Fiscal multipliers may be higher at the zero lower bound.

Turning to financial conditions, financial markets were affected by the September FOMC announcement, including mortgage rates. Refinancing activity is up. Stock prices rose, and the dollar fell. High yield bonds increased in price. In other developments, merger and acquisition activity is up, and pressures on large U.S. financial institutions have moderated. However, risk premiums remain high, and safe real interest rates are very low. In Europe, the ECB's actions have bought time, standing between peripheral countries and a sudden stop. Some see a period of relative calm and better sentiment ahead. Very large competitive and fiscal adjustments remain to be made, however, and Spain has to stop playing Hamlet. The euro crisis is unlikely to go away.

With respect to inflation, inflation seems likely to be running at or below the 2 percent objective over the forecast horizon. This is confirmed by indicators like the trimmed mean. The Cleveland inflation expectations indicator is anchored below 2 percent, although TIPS breakevens are up. The drought may lead to higher food prices in coming months. One risk is that output gaps and potential output are very difficult to estimate.

There's a quick summary. Seeing agreement and exhaustion, I will adjourn the meeting. There is a reception and dinner. No business will be conducted. We start tomorrow at 9:00 a.m.

[Meeting recessed]

October 24 Session

CHAIRMAN BERNANKE. I thought I'd start today with a few comments on the economic go-round. Like many of you, I was struck by the difference between consumer and business attitudes. I opened up *The New York Times* Business section this morning, and the headline was "Firms Don't Share Consumer Optimism." I'm wondering why that is. One reason might be that businesses have greater exposure to the global economy.

Janet and I were at the IMF meetings in Tokyo last weekend, and the mood was pretty dour. The IMF has downgraded its global economic growth outlook. We know that U.S. real merchandise exports were down in both July and August. So there is a sense that global growth is slowing, and of course, in the international meetings you have a much closer sense of the European situation, which continues to be a concern.

I think it's also possible that firms are also more attuned to the fiscal situation than households, and I would point out that virtually everyone mentioned the fiscal cliff yesterday. I would also point out that even if the fiscal cliff is resolved, we have also the debt limit and the fact that fiscal headwinds are still fairly significant in any case. The Tealbook estimates a minus 1 percent drag next year, and I think other analysts have had bigger numbers than that. So that is going to be a problem.

I guess the good news on households is that they do provide potentially some traction for monetary policy, as was noted by several people yesterday, through wealth effects—if they're reacting to stock prices and house prices through the housing market. We talked about a possible positive dynamic where rising house prices both increase demand and improve creditworthiness and the willingness of banks to lend. Finally, auto sales should not be ignored. Those have been a source of strength as well. So we continue to have a mixed outlook, and in many ways the U.S.

is doing a little better than some of our global peers, but we, of course, are part of the global economy.

I think a word should be said about inflation. No one mentioned the price of gas, which of course is a very salient price. The past couple of months, the CPI was very much affected by increases in gas prices. I'm sure you've noticed that that's largely reversed, and we should see not seasonally adjusted gas prices fall to about $3.30 in the next month or two. That will be a plus both for inflation and also for consumer spending. Core inflation remains subdued. The run rates for PCE core inflation, including the staff estimate for September, the past three months is 0.93 percent at an annual rate, and the past six months is 1.28 percent at an annual rate, so core inflation does remain a bit below our target. And I have regularly cited here the commodity spot price ex energy, which is interesting to pay attention to, including food. That index is flat for the year and down 16 percent from its April 2011 high. So I agree with the general view that inflation, at the moment at least, is fairly moderate.

I wanted to take a couple of minutes to report on a simple, back-of-the-envelope exercise that I did to try to understand better recent developments. At the IMF meetings in Tokyo, Olivier Blanchard and the IMF made waves by upping their estimates of fiscal multipliers and, therefore, changing some of their recommendations about austerity. The way that that analysis was done was that Olivier looked at the forecast errors that the IMF had made for different countries and noted that the countries where they had been overly optimistic were also those countries that had taken austerity measures, and they concluded from that that maybe they had underestimated the austerity impact.

In a similar spirit, I looked back and asked what were the sources of the forecast errors that the Tealbook made—and I only pick on the Tealbook because it actually has a forecast with all the details, which we as a Committee don't have. I looked at the forecast for 2012 that was made two years ago in the October 2010 meeting. I thought by doing that I could learn something about what's been happening and try to understand better how the economy is evolving. After I did this, I took it back to the staff. They noted that they are working on a more elaborate version of this for the Committee in the next couple of meetings. This was just a very rough preliminary look at this issue. When I did this, I noticed it was very interesting because the October 2010 Tealbook overestimated the level of real GDP this year by a large 4 percentage points, but at the same time, the October 2010 Tealbook estimated that unemployment in the fourth quarter of this year would be 8.0 percent, which is identical to what the Tealbook currently estimates. Not surprisingly, given that estimate, the October 2010 Tealbook also estimated that the output gap would be 3.7 percent. The current estimate is 4.0 percent. So there has been some variation, President Plosser, but at least two years ago they had it about right: an overestimate of total output, but a correct estimate of unemployment and slack. The way they reconcile that, naturally, is by downgrading potential output, and indeed, a lot of this is the result of major revisions to the output data going back to 2009 so that actual production was lower than anticipated.

Now, the combination of lower real potential output and unchanged slack is actually not contradictory. It's not a problem from the perspective of the FRB/US model because the FRB/US model has in it a kind of Say's law, which works as follows: If there is a drop in long-run productivity or long-run permanent income, and households and businesses recognize that, then they reduce their aggregate demand proportionally as a permanent income effect. If we think of this as the public learning at the same time that their potential output was lower and it's going to be lower, then total output comes down because potential output is down, but slack is unchanged because aggregate demand comes down by the same amount.

That would be the diagnosis that the forecast errors would suggest. Now, the other forecast errors are broadly consistent with this story. For example, household consumption was over-forecasted in 2010, but it was over-forecasted by about the same amount as disposable personal income. In fact, the saving rate was predicted to be 5.3 percent, and in fact, it was 3.8 percent. So households, if anything, were a little bit more willing to spend than was expected, and indeed, household durable spending was actually higher than was forecast two years ago. There's not been any unexpected drag on household behavior other than the fact that they've become more pessimistic about their longer-run income. That's consistent.

Also residential investment and business investment in 2012 were pretty close to what was forecast in 2010, just a bit below, and the trade balance was actually more favorable than anticipated. That is, net exports were higher than expected. All of that is consistent, again, with this view that the source of the forecast error was potential output, which by the way was about half from TFP growth and then the rest from less capital deepening and less participation, so all three components of potential output.

The one category of expenditure that doesn't quite fit this story is government spending. Total real government spending by state, local, and federal was 6 percentage points lower this year than was anticipated two years ago, which is quite a big number. Some of that could just be part of the fact that with lower revenues, governments also cut back on their spending. But it seems to me that—and again, I am waiting for the more-detailed analysis from the staff—unanticipatedly tight fiscal policy might be part of the story.

The Tealbook also underpredicted both total and core inflation, and you can tie this back in to the story. Looking at the difference between total inflation and core inflation, that spread is bigger than expected, so obviously, energy price shocks and so on were larger than anticipated, and of course, that may have had some effect on aggregate demand as well. But the higher core inflation presumably can be attributed both to some pass-through from those energy shocks, but also if productivity was lower than expected, then unit labor costs were higher than expected, and that could be part of that story.

To summarize—and again, please take this as a very rough, back-of-the-envelope exercise—it seems like the biggest change in the outlook from 2010 to now is on the level of real GDP and potential output. The major issue was the fact that the data were overoptimistic in the sense that they were revised down, and perhaps there was over-extrapolation of the strong productivity numbers we saw during the crisis—that's part of the story. In addition, there have been energy price shocks, as you know, and some unexpected fiscal contraction.

Now, again, I find this quite interesting. One issue that this bears on is the story we tell about the recovery. One story that you hear a lot is what is now known as the Reinhart–Rogoff story, which says that financial crises lead to very slow recoveries, and sometimes the implicit message is that all we can do is wait it out and hope it gets better. The other story is that aggregate demand is insufficient, and that's causing the economy to grow too slowly. I think what this shows is that both of these stories can be right at the same time. What you could interpret this as saying is that the financial crisis may have disrupted to some extent the TFP growth through capital allocation, through capital deepening, through entrepreneurial activities, et cetera, and that slowed down potential output growth. But, at the same time, the slow growth, the slow recovery, the shock of the crisis, all of those things have also made businesses and households pessimistic about the future and depressed aggregate demand and, therefore, created an output gap reflected in the unemployment rate.

The most positive implication of this, I guess, is that there are, therefore, two reasons to think that the economy will eventually pick up. One is that as the financial crisis wears off, so to speak, we should see perhaps somewhat more normal output growth or TFP growth. At the same time, if the economy begins to return to full employment, that's also a temporary source of faster-than-normal growth. Again, I found that interesting.

That last point, I thought about how this bears on our definition of substantial improvement in the labor market. In this case, the unemployment rate would have been a pretty good measure since it was correlated with slack, which is sort of what we're about. Payrolls would have been a little bit less good, but the reason payrolls were less good was basically because participation was lower than expected. That was an issue that was raised yesterday. But in any case, it does suggest that we need to look at a number of factors as we think about labor market conditions. I'll stop there. Okay. If there are no comments or questions on the economic go-round, let me turn to item 4, "Current Monetary Policy," and ask Bill English to introduce it.

> MR. ENGLISH.[4] Thank you, Mr. Chairman. I will be referring to the package labeled "Material for FOMC Briefing on Monetary Policy Alternatives." I'd like to start by looking forward to future policy decisions, before coming back to focus on the specifics of today's policy decision.
>
> Your September statement indicated that the Committee "will continue its purchases of agency mortgage-backed securities, undertake additional asset purchases, and employ its other policy tools as appropriate until" the outlook for the labor market has improved substantially. To give you an idea of how market participants interpret that criterion, the top panel of the exhibit on page 1 of the handout provides some information on individual primary dealers' expectations about when the Committee will stop purchasing additional securities and what the unemployment rate will be at that time. As you can see, the range of views—each dealer's view is denoted by a black dot—is quite wide: The stopping dates plotted range from as soon as the second quarter of next year to as late as the fourth quarter

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

of 2015, and the associated interpolated modal unemployment rates range from as high as 7.9 percent to as low as 6.5 percent. The median expected stopping date for purchases is the first quarter of 2014, and the median expected level of the unemployment rate when purchases stop is about 7½ percent, although many of the dealers emphasized in their written comments the importance of other indicators, particularly trends in payroll employment, in conditioning their assessment of the outlook for labor markets.

The three red dots in the panel show comparable information for the balance sheet assumptions staff provided for the three policy alternatives in the Tealbook. Under alternative C, purchases of longer-term securities stop at the end of this year; under alternative B—and also in the staff forecast—purchases continue at the current rate of about $85 billion per month until mid-2013 and total about an additional $750 billion; and under alternative A they continue until the end of 2013 and total about $1.25 trillion. Under the staff forecast, the unemployment rate in mid-2013 will still be about 8 percent, but—as David Wilcox discussed yesterday—the economy will be strengthening, with the unemployment rate expected to move down to 7½ percent over the subsequent year, which might be seen as broadly consistent with a substantial improvement in the outlook for labor markets. If a more significant realized improvement were seen as necessary, asset purchases might continue to the end of 2013, as the staff assumes for alternative A. In that case, the unemployment rate is projected to have declined by more than ¼ percentage point, and the unemployment rate a year ahead—that is, at the end of 2014—is projected to be about 7 percent. (Of course, alternative assumptions about the size or timing of purchases could also be consistent with the language included in alternatives A and B.)

The bottom panel of the exhibit shows SOMA securities holdings under the staff's assumptions for the three policy alternatives and under the median forecast from the dealer survey. As I noted earlier, the median dealer anticipates that purchases will continue through the first quarter of 2014, one quarter later than under alternative A. However, the median dealer forecast shows virtually the same net increase in the size of the portfolio as assumed in alternative A, reflecting some expected tapering of the rate of purchases as the economic outlook improves.

The exhibit on page 2 depicts staff simulations based on the monetary policies envisioned under the three alternatives. The black solid lines show the results for alternative B, under which the unemployment rate falls to about 6¼ percent by the end of 2015 with inflation running somewhat below your 2 percent longer-run objective. The red dotted lines show the results of the more-accommodative balance sheet policy assumed under alternative A. In this case, the unemployment rate falls somewhat faster and inflation runs a little higher than under alternative B. The blue dotted lines show the results of the less accommodative policy of alternative C, with an unemployment rate that is significantly higher at the end of 2015, and an inflation rate that is nearly ½ percentage point lower.

Turning to today's policy decision, many of you indicated that the incoming data over the intermeeting period had been somewhat better than expected but did not suggest a fundamental change in the economic outlook; as a consequence, you might be inclined to make only minor changes to update the statement, as under alternative B, page 5. Although the unemployment rate for September showed a surprisingly large drop, you may be reluctant to take much signal from one data point, especially if you see the moderate recent gains in payrolls as providing a more reliable indication of conditions in the labor market. You might therefore remain concerned that economic growth would not be adequate to return the unemployment rate to more normal levels over a reasonable time span without continued asset purchases.

The statement under alternative B is largely unchanged from September. The first paragraph is adjusted in light of the slightly faster pace of household spending; it also notes that inflation has picked up somewhat, reflecting higher energy prices. The second paragraph is changed slightly to make clear that no further accommodation beyond what was announced in September is being added. And the third paragraph indicates that asset purchases will continue at their current pace. The final two paragraphs are unchanged.

Market participants do not appear to expect any significant changes to the Committee's statement or to the course of policy at today's meeting. Thus, a statement along the lines of alternative B would likely do little to change asset prices.

Alternative A, on page 4, might be attractive to policymakers who see the medium-term outlook for economic growth and unemployment as sufficiently weak to warrant making clear to the public that the Committee intends to continue purchasing both agency MBS and longer-term Treasury securities into next year. With core inflation running close to 1½ percent and the fiscal cliff approaching, some members may view the consequences of a new adverse shock to the economy in its current state as warranting a clear indication that monetary policy will remain very accommodative for some time in order to bolster business and consumer confidence. They may also see the situation in Europe and a possible slowing of the expansion in China as pointing to the risk of negative spillovers from developments abroad.

The innovations in the alternative A language include the announcement in the third paragraph that the Committee will continue purchasing Treasury securities at the current pace of $45 billion per month into 2013. Also, the new language in the fourth paragraph is intended to provide additional information regarding how the Committee will decide on the timing of the end of its asset purchases.

While the primary dealers already anticipate that the FOMC will continue to purchase both MBS and Treasury securities well beyond year-end, they do not expect an announcement to that effect today. Thus while the content of a statement along the lines of alternative A would not greatly surprise investors, the timing of the announcement would be a surprise. As a consequence, longer-term interest rates would likely fall and equity prices would likely rise. However, the unexpected timing might lead investors to conclude that the FOMC has become more concerned about the outlook for the economy, damping the gains in equity prices and reinforcing the declines in interest rates.

Alternative C, page 6, might appeal to policymakers who see the recent improvements in the data on employment and consumer spending as confirming that the recovery is on a sustainable course and that policy accommodation can be scaled back. Those with this view may also judge that the downside risks to economic growth emanating from Europe have eased appreciably and see greater risks instead to the inflation outlook, especially if asset purchases are continued for much longer. Alternatively, participants may have views that are shaped less by inflation concerns but believe that the costs and risks associated with additional asset purchases are likely to exceed the benefits in terms of improved economic conditions.

The first paragraph in alternative C is more positive about economic developments than its counterparts in alternatives A and B. The second paragraph states that the highly accommodative stance of policy will help support continued declines in unemployment and that medium-term inflation is expected to run near 2 percent. The third announces that MBS purchases will continue only through the end of the year. The fourth paragraph indicates that the Committee is prepared to take further action as needed to promote sustained improvement in labor market conditions—but the preceding paragraphs suggest that the Committee sees no such need. There are two choices for the final paragraph: The first pulls closer the date in the forward guidance; the second replaces the date with language describing the factors the Committee would consider in determining the appropriate time to raise the target federal funds rate. A statement along the lines of alternative C, following so closely after the September decision, would greatly surprise market participants. Interest rates would likely jump, and stock prices could drop sharply.

Draft directives for each of the alternatives are presented on pages 9 through 11 of your handout. Thank you, Mr. Chairman. That completes my prepared remarks.

CHAIRMAN BERNANKE. Thank you. Questions for Bill? President Evans.

MR. EVANS. Thank you, Mr. Chairman. Bill, I'm a little surprised by the interpretation of the size of the asset purchases in the dealer survey. Looking at your chart, the dealer survey seems to be suggesting asset purchases on the order of alternative A. I think this is in line with the question that President Lockhart was asking yesterday. This is leading me to be comfortable interpreting substantial improvement in line with alternative A. If someone was of the opinion that we were expecting something like an alternative A, the substantial improvement language isn't sufficient for that. Should we convey preferences for a different alternative? I'm not quite sure how to make these judgments about alternative B versus alternative A since alternative B looked like pretty comfortable language in line with the dealer survey, but if I have to say I prefer alternative A, well, that's what I would do. Thoughts?

MR. ENGLISH. I'm not sure if there was a question there or not. [Laughter]

MR. EVANS. Well, I'm surprised.

MR. ENGLISH. I wanted to present this information precisely because I thought the expectations in markets for the total amount of purchases are different than what we've written down in alternative B. I mean, we had to write down our alternatives before we had the dealer survey in hand. The dealers' expectations moved from immediately after the September meeting, when the Desk did kind of a flash survey, to the final dealer survey for this meeting. So we ended up in a place where we were writing down balance sheet sizes that were, to us, reasonable—as we discussed yesterday—but are not that well aligned with what's in markets.

MR. EVANS. Okay. This seems like a normal type of adjustment that we were likely to get with qualitative types of guidance, I guess?

MR. ENGLISH. I think that's right. I think it's a communications issue that would have to be addressed.

MR. EVANS. Thank you very much.

CHAIRMAN BERNANKE. Governor Raskin.

MS. RASKIN. Thank you. Bill, I noticed that in all three alternatives, in the first paragraph in terms of our statement of current conditions we're mentioning higher energy prices. I'm wondering if you could elaborate a little bit on that decision, especially given the fact that in the go-round we actually heard very little about higher energy prices. If, in fact, we were to make a change in this direction, I wonder whether we'd be maybe signaling more than we're actually seeing. I just wanted to hear your thoughts on including energy prices.

MR. ENGLISH. The past couple of CPI releases, for example, have had pretty high headline numbers, and the reason underlying that is basically energy prices, and so it seemed to us that paragraph 1 is kind of a backward-looking statement of what have we seen over the intermeeting period, and it seemed appropriate to say something like this. It was a little uncomfortable to stick with the language we had about inflation having been subdued because the headline numbers really weren't that subdued over the past couple of months. They were kind of to the high side, but they were to the high side for a very identifiable reason that we don't think will persist. So it seemed worth spelling out that we've seen some higher inflation, but it was due to energy prices, and this is not something people should be concerned about as an underlying trend in inflation.

MS. RASKIN. But, I mean, our current view may be that energy prices are not going to be higher going forward.

MR. ENGLISH. That's right, but again, paragraph 1 is kind of describing the information that came in over the intermeeting period.

MR. WILCOX. Yes, Bill has got it exactly right. The past couple of CPI readings were pretty high. For what it's worth, we've got retail energy prices in the PCE price index increasing 10 percent at an annual rate in the third quarter and 11½ percent in the fourth quarter, and then we have that unwinding going forward from there. Notwithstanding those pretty big energy prices numbers, we have top-line PCE inflation at 1¾ percent in the third quarter and just a shade over 2 percent in the fourth quarter. So we think core inflation is going to be very moderate over the second half.

CHAIRMAN BERNANKE. Governor Duke.

MS. DUKE. Thank you. Actually I had a little bit of the same question about the difference between alternative B and alternative A. Particularly when we get to the next meeting, we will be looking at exactly this decision: Do we continue on with the Treasury purchases? I'm not sure I see in alternative A the indicator that goes from $750 billion to $1.2 trillion or whatever that magnitude of a jump is. I think some discussion at least internally of how we're thinking about what the total purchases would be or the stopping rules are would be important next time.

But my big question has to do oddly with exit. As our balance sheet gets bigger and bigger, we're still assuming the same five-year time period for selling off the securities that are on the balance sheet. So I'm beginning to wonder how feasible that is, particularly as our holdings of mortgage-backed securities get larger, and with us in the market buying, the market for mortgage-backed securities begins to shrink. I don't expect that you're ready to talk about that today, but I'd be really interested in your thoughts about how continuing to build the balance sheet impacts the time period of exit.

MR. ENGLISH. Simon, do you want to say anything about the pace of sales?

MR. POTTER. The Tealbook talks through this for you under alternative B. What I have here would be for normalizing, I think. We would sell, under alternative B, at about an $18 billion per month pace, the average sales pace. And then, under alternative A, about $22 billion per month.

MS. DUKE. Really?

MR. POTTER. Yes.

MR. FISHER. Thank you.

MR. ENGLISH. I think one issue that comes up, if the balance sheet gets bigger by more than roughly $750 billion, is that the exit principles say sales will take place over three to five years. The staff has generally assumed five. And normalization of the size of the balance sheet will take place over two to three years. If the sales take place over five years and the balance sheet gets more than about $750 billion larger, the normalization will take longer than three years. So as you go from alternative B to alternative A, the normalization would take longer than the three years that we have written down in the exit principles.

MS. DUKE. Thank you.

CHAIRMAN BERNANKE. President Rosengren.

MR. ROSENGREN. Bill, this is a great chart, and it is a perfect lead-in to the communication discussion that we are going to have afterwards. If you were to do this chart during conventional periods, where we are talking about a fed funds rate going up by 25 basis points, down 25 basis points, or staying the same, my guess is that we would see a lot of clumping around no change or 25 basis points either up or down depending on the circumstances. When I take the period of unconventional policy and multiply to convert the amounts to a fed funds rate, it seems like we are getting a huge spread on what people's anticipations of monetary policy will be as a result of our qualitative guidance.

I would be interested in two things. One, is this chart an outlier relative to history? If we look at other periods where people are trying to make a guess about what our actions are, would we normally be this far away from expectations of what are probably the most informed people in the market? Then, second, am I right in making my mental calculation that if I were trying to put this in terms of a fed funds rate up or down, this distribution is substantially wider than what we would see under conventional policy? I mean, I should be happy, because this is implying the market expects much more easing. And given that that would be my bias, I might be happy that the market is willing to ease much more than it looks like at least the staff thinks our intentions are. But it does raise some concern about if we are creating a lot of variance in our policy through our current communication strategy. Any comments you have on that?

MR. ENGLISH. I haven't done the work, but I think if you converted this to fed funds equivalents using various staff rules of thumb, you would indeed find a fair difference in the amount of easing the different broker–dealer firms are expecting over the next couple of years.

And as to how unusual that is, I guess I am not sure. I think even if we were in a world of conventional policy, and the market participants were looking at some trajectory for the rate—they thought there was going to be a tightening cycle or an easing cycle—there would probably be a fair amount of difference about the views of how large that tightening cycle would need to be or how large that easing cycle would have to be. So I am not positive that this would be that unusual, but, nonetheless, we are in a situation where some participants see an expectation that there will be quite a lot of easing, and some not very much. That range is indeed pretty large.

MR. POTTER. I'd say that three meetings ahead it is really close. Most dealers assume that the Treasury purchases will continue at $45 billion and the MBS at $40 billion. That's very similar to the normal state of the world where the expectations of the fed funds rate over the next few meetings are very close to what we see in the Tealbook. And then there's this issue, as Bill pointed out, that as you go further out, there are different views on the reaction function, which is reflected here, and also on what the economic situation might look like that gives the dispersion.

CHAIRMAN BERNANKE. President Bullard.

MR. BULLARD. Yes. I was just going to weigh in on this issue a little bit. This is just that the staff forecast is based on an assumption of a little less accommodation than the market thinks. If you wanted to incorporate that in, then you would have a little more aggressive forecast I guess.

MR. ENGLISH. It would be the forecast under alternative A, roughly, on my second exhibit.

MR. BULLARD. As you say, you didn’t get the dealer survey until later in the process. I think in the future, then, that would be probably incorporated into the main baseline of the Tealbook. That’s how I would read this.

MR. ENGLISH. I think in the past we have been hesitant to just use whatever the market’s forecast is for policy in the staff forecast because we don’t necessarily agree with the market’s assessment of the outlook or your likely reaction function. I wouldn’t want to say that no matter what, we are going to be writing down the market participants’ expectations for policy in the staff forecast. We are going to have to make judgments about the outlook and about the likely policy response to that outlook.

MR. BULLARD. Okay. Well, another way to look at it is the market is expecting more accommodation, but they don’t really have an appreciably different forecast from what we do. They think it is going to be less effective than we do. That’s why they think we are going to have to do more than what we think.

MR. ENGLISH. I guess I would want to look more carefully at the dealer survey to see whether that is the right way to interpret this, or whether the right way is that they have a different reaction function built in than we do.

MR. POTTER. They moved up their forecast for GDP and lowered the unemployment rate this time relative to September. They seem to think that the easing was effective.

CHAIRMAN BERNANKE. These priors look like they are pretty loosely held. I think that if we choose to communicate differently, we can do that. President Kocherlakota.

MR. KOCHERLAKOTA. Yes. Thanks, Mr. Chairman. I have just a few things to say. One is to second what you just said. If we want to communicate that our anticipation about the future path of policy is close to what the staff's forecast is, well, we should figure out ways to do that. If we are happy with what the market participants currently expect, then I guess we should take that on board in the way we think about the future path of policy.

I have a separate question, though. At the end of paragraph 2 of alternative B, there is a line that says, "The Committee also anticipates that inflation over the medium term likely would run at or below its 2 percent objective." This sentence made more sense to me at the previous meeting, as it referred to what would happen if we did not take action. Now that we've taken action, it makes less sense to me. I think it would be read, perhaps sloppily by people reading the statement, as saying that the Committee anticipates that under its current policy choice that inflation over the medium term likely would run at or below its 2 percent objective. I guess my question is, what is the staff trying to communicate by including this sentence at the end of paragraph 2 of alternative B? Is it about the path of inflation without sufficient policy accommodation, or is it about the path of inflation under the path of policy described in alternative B?

MR. ENGLISH. It probably should be understood as the inflation outlook with sufficient policy accommodation.

MR. LACKER. With?

MR. KOCHERLAKOTA. With. Okay. That's fine. Yes, I'm not sure it's as clear as it could be on that.

MR. LACKER. And why is it “would”? It “would” be—

CHAIRMAN BERNANKE. Yes, I disagree with that. It says, “without sufficient policy accommodation,” “might not,” and “would.”

MR. LACKER. Those are conditional.

CHAIRMAN BERNANKE. They’re counterfactual. They suggest that without the accommodation, you would get insufficient growth and inflation below target.

MR. KOCHERLAKOTA. So we are not describing what we think the path of inflation will be, given that we have provided sufficient accommodation.

CHAIRMAN BERNANKE. That’s right.

MR. KOCHERLAKOTA. Are we comfortable with that?

CHAIRMAN BERNANKE. Well, we can discuss that in the go-round.

MR. KOCHERLAKOTA. Okay. That’s fine.

CHAIRMAN BERNANKE. Anyone else? [No response] All right. Why don’t we go, then, to the go-round, and President Fisher.

MR. FISHER. Thank you, Mr. Chairman. I was happy to hear you refer to *The New York Times* this morning because that article confirms what many people at this table have been saying meeting after meeting. (Although in the upper right-hand side of that newspaper, it has always been proud to say, “All the News That’s Fit to Print,” there are cynics who would say, “All the News That’s Fit to Tint.”) I’m not quite sure if that is an affirmation or something that I should be worried about, having made the points that are made in that article, many of them this morning. The underlying point is that, again, the macroeconomic effects of short-term solutions to the fiscal cliff may be one thing, but how it affects businesses’ confidence is another. I’m glad you made that point.

I listened very carefully to the conversation around the table yesterday, and I want to make a couple of quick points because I went early and then actually listened to what other people were saying. [Laughter] Governor Tarullo made the point some time ago that we shouldn't be reading statements, we should actually be having a dialogue. I want to respond a little bit.

We have to be very careful. I sensed—let me try to state this politely—a little bit of self-congratulation that QE3 had had such a great impact on the market. Of course it has had a great effect on the fixed-income market. This is a principle of hydrodynamics. It's Bernoulli's principle. If you shove a lot of volume through a narrow space, you're going to get a faster flow. Simon gave a brilliant report yesterday—as he always does—and we saw the reaction in terms of the spreads and what has happened with MBS, and we had some conversations. Governor Powell and I pointed out certain activity, at least in the CCC and lesser category—the junk bond sector—and some of the activities being seen were fully expected. What I didn't hear was that the stock market is actually down since we previously met by 3.2 percent. It rallied the day after. It's off 3.6 percent since then.

The real issue was raised by Betsy's intervention, in my view. I simply want to make the point that I have questions about the wealth effect, and I would like to see further studies on that. You mentioned that, Mr. Chairman, in your brilliant summary. Stock prices are questionable. How much does it really affect, at least in a reasonable time frame, the median household? And then, Betsy's point, as I interpreted it, was a key point. And that is, the transmission between MBS prices and what actually happens to the average household—and we think it will take time.

I am always thinking at this table: I don't work for the big banks; I don't work for the dealers; I work for the average American household, and that is our job. And the question is efficacy. I think it is a little bit too early to judge an effect. Besides that, as we know, despite contradictory data that Governor Yellen presented from Zillow, and so on, the housing market actually took off before we launched QE3. We were not quite sure, but that has been confirmed by the data now. We have to be very careful and take our time to understand what the real effect of what we have done is, in addition to what we see in terms of immediate financial indexes. That is my point.

With regard to the options that have been presented to us, although I was not supportive of QE3—and I still think it is to be determined whether it is successful—I would support alternative B. I appreciate some of the language tweaking that took place in the first paragraph to indicate a little peppier consumer behavior. I had suggested that in a memo. I'm grateful that you took it, and I consider it certainly less worse than alternative A. And because we are already going down that path, it is the most likely option to adopt, and, even though my heart tells me that alternative C is closer to my thinking, I would support alternative B. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Rosengren.

MR. ROSENGREN. Thank you, Mr. Chairman. I support option B. Minimizing changes to the statement until we get more visibility into fiscal policy and the effect of our earlier actions seems appropriate.

At our next meeting, I would ideally like to adopt thresholds for actions based on economic outcomes and to build a consensus around beginning Treasury purchases when the MEP ends. Reducing our gross purchases at the start of 2013 risks a noticeable reversal in the configuration of asset prices that our initial announcement set in train. To me, that seems premature and would further risk an undesirable return to the weak recovery that we have experienced to date.

The Tealbook assumes that we will stop purchases next June with the unemployment rate at 7.9 percent, nonfarm payroll growing in the first half of 2013 at the same pace as the second half of this year, and the PCE inflation rate below 2 percent. The optics, if not the economics, of stopping under such circumstances seems troublesome. Our statement is clear in suggesting we will continue purchases until we see substantial improvement in labor markets. I do not view substantial improvement as consistent with an unemployment rate 0.1 percentage point higher than it was in September.

My own threshold for discussing the end of an $85 billion purchase program for Treasury and MBS securities would be 7¼ percent, assuming that inflation and inflation expectations remained well behaved. At that point, the discussion should center on whether overall labor market conditions were consistent with substantial improvement. For example, whether the lower unemployment rate reflected job creation rather than reductions in the labor force; whether we had seen sustained, robust payroll employment growth; and whether we envision continued substantial improvement in labor markets for some quarters to come. Under those conditions, I would stop asset purchases and stop reinvesting.

My threshold for beginning the discussion about raising the federal funds rate would be an unemployment rate of 6½ percent—again, assuming that inflation and inflation expectations remain well behaved. Whether the threshold became a trigger would, again, be determined by whether the lower unemployment rate reflected a real improvement in labor markets and the likelihood that it would continue on. Thank you.

CHAIRMAN BERNANKE. Thank you. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. The Governors may not have been fully briefed on the Conference of Presidents meeting we had in Los Angeles, where we had a presentation on the American Western. I am going to channel my inner Gary Cooper this morning. [Laughter] I support alternative B.

Actually, just one comment on the language. In paragraph 1, I would be happy with just saying, "Conditions in the housing sector have continued to improve," dropping the phrase "albeit from a depressed level." I think the housing sector conditions have evolved enough over the recent months to break with the earlier qualifying statement. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thanks, Jimmy. [Laughter] President Lacker.

MR. LACKER. I will spare you my John Wayne. [Laughter] I cannot support additional asset purchases at this time. Further stimulus, I think, is unlikely to result in a discernible improvement in economic growth. And I think if it does, it will cause an unwanted increase in inflation.

Economic activity has been growing at a modest pace on average. Inflation has been fluctuating around 2 percent. Unemployment does remain high by historical standards, but the improvement in the labor market appears to have been held back by real impediments beyond the capacity of monetary policy to offset. In such circumstances, I think further monetary stimulus runs the risk of raising inflation and destabilizing inflation expectations. Moreover, I think further expansion of our balance sheet would make our exit strategy riskier and more challenging.

The proposed statement says, "The Committee expects that a highly accommodative stance of monetary policy will remain appropriate for a considerable time after the economic recovery strengthens." I read this as saying that we will keep the funds rate near zero for a considerable time after we see a marked increase in the growth of employment and output. I don't think a policy conforming to this characterization would be appropriate because it implies providing too much stimulus, beyond the point at which I think we are going to need to begin raising rates.

Finally, I remain opposed to purchasing additional agency mortgage-backed securities. Because we're doing imitations, I am tempted to channel the "Most Interesting Man in the World" and say I don't often support purchasing assets, but when I do, I prefer purchasing Treasuries. [Laughter] As we discussed last time, and as the staff analysis documented, purchasing MBS can be expected to reduce borrowing rates for conforming mortgages by more than it reduces borrowing rates for nonconforming mortgages or for other borrowing sectors, such as small business, autos, or unsecured consumer loans.

I haven't seen any convincing analysis of why such a credit reallocation would be preferable, relative to our objectives. Moreover, deliberately tilting the flow of credit to one particular economic sector is, in my view, an inappropriate role for the Federal Reserve. And I will, again, cite the joint statement of the Department of the Treasury and the Federal Reserve on March 23, 2009, which says, "Government decisions to influence the allocation of credit are the province of the fiscal authorities." Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Williams.

MR. WILLIAMS. Thank you, Mr. Chairman. I support alternative B. Despite the recent uptick in the data, the pace of economic recovery remains modest. Inflation continues to be subdued, and inflation expectations are well anchored. The current stance of policy is providing essential stimulus and remains entirely appropriate.

That said, to continue the comments that President Rosengren made, I expect it will be some time before the outlook for the labor market improves substantially. Therefore, we will need to continue our purchases of longer-term Treasury securities well past the end of the year, and longer-term MBS purchases as well. So at our next meeting, we'll need to signal this expectation along the lines of alternative A, although when I look at alternative A, I favor continuing with something like the substantial improvement in labor market language.

And finally, there was some comment earlier about our needing to improve our communication, and my own reading of the market view on what our purchases will be is entirely consistent with our policy statement. So I think it's actually the staff reading of what our statement said that was probably more conservative in terms of alternative B. I don't think the communication toward the public was at fault there. Thank you.

CHAIRMAN BERNANKE. Thank you. President Evans.

MR. EVANS. Thank you, Mr. Chairman. You know, someday I think people are going to go through the transcript and have a case study on the effectiveness of advertising, because it's interesting that President Lacker can make an allusion to a product and nobody would ask what that product was. That's effective advertising, I guess. [Laughter]

At any rate, I support alternative B. I support continuing our $85 billion per month of purchases of long-duration assets. Yesterday we seemed to agree that state-contingent policies are appropriate. We disagreed over whether they should be qualitative or quantitative. So because our statement undertakes qualitative guidance, let me offer my own interpretation of what alternative B is saying. Apparently that is different from the assumption of the staff analysis. I think the staff does as well as they can with the modest direction that the Committee gives them, so there's no fault intended there.

I think substantial improvement in the labor market outlook ought to be associated with growth in payroll employment on the order of 200,000 per month for a period of, say, four to six months, some substantial period. I think it should be associated with GDP growth above trend for almost two quarters, to align with the fact that economic growth is supporting that substantial improvement in the labor market, so that it's not just a head fake. I think we would see clear downward momentum in the unemployment rate if we were seeing that type of substantial improvement, and I think that all the other associated labor market indicators ought to show similar improvement.

I don't have any disagreements with the way President Rosengren described that we should be seeing the unemployment rate perhaps down as low as 7¼ percent to make a decision on ending purchases and a lower unemployment rate for liftoff. I think that's more like the dealer survey results as I saw them. So I agree with President Williams. I think we're doing a pretty good job with communicating there, and I think that some additional commentary from you, Mr. Chairman, will help there.

Now, "in a context of price stability," is an important thing to also offer clarity on. Here, given that it's a qualitative type of description, I would say that must be associated with something like underlying inflation that remains below an acceptable upper tolerance with respect to our longer-run inflation objective, which I would take to be about ½ percentage point above 2 percent. So my preference is to educate the public regarding our intention of what we mean by substantial improvement. I think thresholds would be a lot cleaner and easier to describe, but that seems to be where we are. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. I support alternative B for today, and I have one suggestion for a change in the language based on President Kocherlakota's earlier comment concerning the last sentence of paragraph 2, which reads, "The Committee also anticipates that inflation over the medium term likely would run at or below its 2 percent objective." I see that, based on his comment, as a little bit inconsistent with what we think now, because we did take the aggressive easing action at the last meeting, and we do think that that's supposed to keep inflation a little bit higher. So maybe instead of "at or below," how about "near"—"would run near its 2 percent objective"? And that would suggest that the Committee feels like it has responded to this as opposed to just saying that we're going to accept the lower inflation that would otherwise be projected. So instead of "at or below" it would be "near."

MR. ENGLISH. Sorry, could I just make a comment? I think the Chairman was correct earlier, that that sentence was intended to be conditional on "without sufficient policy accommodation." So the earlier sentence on economic growth and labor market conditions said "without sufficient policy accommodation, economic growth might not be strong enough to generate," and then the last sentence says, "The Committee also anticipates that inflation over the medium term likely would run at or below its 2 percent objective," again, if there were not sufficient policy accommodation.

MR. BULLARD. But we do have sufficient accommodation, or we think we do. We're trying to adopt a policy that's addressing this. So I just think it's confusing. I took it that the first part was to say, well, if we hadn't taken action, we'd be in trouble, but now that we have taken action, we're getting close.

MR. ENGLISH. I think the "sufficient" is supposed to pick up how long do the purchases continue.

CHAIRMAN BERNANKE. We have, in effect, not made any commitments beyond December.

MR. BULLARD. Well, that's my suggestion, "near."

CHAIRMAN BERNANKE. All right. Thank you.

MR. BULLARD. I appreciate the subtleties here. Okay. Inspired by yesterday's discussion, I want to make an extended remark concerning the ability of the Committee to commit to future policy actions.

Mike Woodford does the following. He divides the period of the zero lower bound into two parts. In the first part, you're following your normal policy rule, and the policy rule recommends a zero policy rate. So you're at the zero lower bound. That's the first part. According to Woodford, policy is constrained during that period. In his world, QE has no effect. I'm not going to go into that. I don't agree with that, but let's just go from there. So policy is constrained while you're at the zero lower bound.

Then there's a second part. You're still at the zero lower bound, and there's a second part to it. The second part is that your policy rule that you followed before the shock hit recommends coming off the zero lower bound. However, you do not come off the zero lower bound; actual policy remains at the zero lower bound because the policy is making up for the fact that policy was constrained in the earlier period. Then you add the total amount of time at the zero lower bound, period one plus period two, and you'll get exactly the correct amount of total accommodation in response to the shock. So I want to call this second period "the Woodford period." That's what's novel about his analysis and about his recommendation, the Woodford period.

The Committee's discussion yesterday, in my view, did not focus enough on this Woodford period. Are we in this Woodford period or not? If not, when will we enter that period, and how long will we stay in it?

Much of the discussion about policy with respect to the federal funds rate seems to be that we will lift off when economic conditions suggest that we should according to some appropriate policy rule, and I appreciate that different people have different policy rules around the table. To talk about policy this way, to me, refers only to the first part of the zero-lower-bound story. It suggests that the reason we're at the zero lower bound is because our policy rule is telling us to be at the zero lower bound. In fact, much of the Tealbook discussion is in this framework, although I appreciate the staff understands exactly what I'm talking about here.

Woodford warned in his Jackson Hole paper that merely pushing out the date of the first increase in the funds rate is not the right type of commitment. It can be interpreted as a pessimistic signal, where, in effect, it's saying we are not raising rates because conditions in the future will be poor. Woodford warned that this is actually counterproductive, as it's sending a pessimistic signal, and this has been discussed around the table.

In my view, the most improved part of the September statement with respect to this Woodford period is the phrase that lower rates will be maintained "for a considerable time after the economic recovery strengthens," and the Chairman did a good job, I thought, at his press conference in referring to this. And I think this has had a marked effect on expectations among financial market participants. They have taken note of this, and there is a change in thought about this partly because of Woodford's paper at Jackson Hole.

Now I'm going to give you my view on this. The first part is, I don't think we can commit. So what Woodford would like you to do as soon as you hit the zero bound is make a statement about this Woodford period, about how long that's going to be and how long you're going to stay at the zero bound, to make up for the fact that you're constrained during the first part. I don't think you can commit, so I think that kind of attempt in the first period doesn't have any effect.

However, we can gain credibility for the Woodford period once we enter the Woodford period. We can point out that a typical policy rule suggests liftoff but that we are nevertheless remaining at the zero lower bound exactly for the Woodford reason, that we're making up for the fact that we were constrained in the first part of the period at the zero lower bound. Then, I think, you actually will get some effect, because the Committee will be behaving differently than would be predicted by a standard policy rule. So what I would predict is you would get no effects from announcements in the first part of the zero-lower-bound period because you can't commit effectively through a Committee to the future, but you might get potentially significant effects once you enter the Woodford period. Then you can point out to markets and to other participants in the economy that you actually are behaving differently. Then you'll earn credibility for the fact that you're staying at the zero bound even though your policy rule is telling you to come off the zero bound.

So I think there's potentially some action here, and I just wanted to take my few minutes to point this out to the Committee and maybe generate some discussion about it. Let me just give you an example. Suppose your rule is Taylor (1993). Most people don't have that rule, but let's just suspend disbelief for a moment. You say that the Taylor (1993) rule described the Committee's behavior before the shock. Now the Taylor (1993) rule predicts that we should come off the zero lower bound, and then we go out and say to the public, "Yes, Taylor (1993) does describe behavior in normal times, but we're not doing that. We're staying at the zero bound even though Taylor (1993) tells us to come up because we're making up for the period when policy was constrained, and we're going to do this for some length of time." And then, eventually, we will come off the zero bound and go back to the normal behavior.

Now, if you have some other policy rule that's suggesting something else, at that point when that policy rule would suggest that you come off the zero lower bound, you could earn credibility for the fact that you're in the Woodford period and you should get an additional boost to the economy at that juncture.

So this is a thought that I've had. I have been concerned that a lot of the discussion about pushing the funds rate date out—we do have ideas about commitment in there, but we also have ideas about how it's just that conditions are not going to be right for raising the funds rate. To me, that's a reference to the first part of the zero-lower-bound period. So I just wanted to get that thought on the table. I have just the one suggestion for today for alternative B, and I appreciate the subtleties on that dimension.

MR. LACKER. Mr. Chairman.

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. Thank you. I appreciate that very careful exposition of this issue and identifying it as connected with this phrase in the statement about "considerable time" afterward. My understanding of the effectiveness of the Woodford period is that it depends critically on the elevation of expected inflation above what your rule would normally have been committing you to. So you have to temporarily raise expected inflation for a time in order for that Woodford period to have some effectiveness on real activity. I just want to confirm that understanding and then make a comment about it.

MR. BULLARD. That's definitely my understanding. What I would like is to get some clarity—maybe in my own head and, to some extent, maybe around the table—about what we're trying to do. And then you can argue about other things: Whether, for instance, you really are constrained in the first part, because you've got QE—that's my position—or about the price level path. So the kinds of things that are talked about in Woodford haven't really materialized. The theory could be wrong for many other reasons. But if that's what we're trying to do, I just wanted to get the—

MR. LACKER. Right. I just wanted to follow up. We had a long discussion a year or so ago and had a lot of staff analysis about the prospect of deliberately raising expected inflation; we decided not to go down that path. I'd also point out, Mr. Chairman, that my understanding of your communications after the meeting is that you've been clear that we don't intend to raise inflation above 2 percent. So there's a tension in our communications between interpreting this as kind of a Woodfordian extension of our zero-lower-bound period and the notion that we're not admitting that we want to raise inflation.

CHAIRMAN BERNANKE. No, I don't think there's any meaningful contradiction. The way I interpret what we're trying to do is that in the Tealbook, there's an optimal control path for the federal funds rate, which is the path you would take if you could perfectly commit today all the way out to the future. I think what we're trying to do is, in some sense, convince the public we're going to take that optimal control path.

It's a time-inconsistent path, mildly, because it does go a little bit further out than the estimated reaction function goes, but (a) it's not working through a deliberate increase in expected inflation, and (b) as it happens, the projected inflation under that path is like

2.2 percent. So there is no meaningful increase in inflation under that path because the Phillips curve is so flat.

Now, as a matter of principle, it is saying that we are taking a balanced approach. We're not trying to change our target and we're not trying to change inflation expectations in the long term. But a small amount of inflation—2.2 percent—is a side effect of getting better overall results and is within the range of the optimal control path.

MR. BULLARD. So, Mr. Chairman, I just want to follow up on that.

CHAIRMAN BERNANKE. Yes.

MR. BULLARD. I agree, of course you'd like to get to the optimal control path, but I don't think commitment is going to be very effective just with words. What I'm trying to point out is that as your favorite policy rule starts to project liftoff and you stay at zero, that's a period where you actually can start to gain credibility and perhaps get closer to that optimal path.

CHAIRMAN BERNANKE. Right, but that will help us in 2020. It won't help us in this—

MR. BULLARD. It depends on when you think you're entering the Woodford period. That's the period when you should be able to start to gain some credibility, in my view.

CHAIRMAN BERNANKE. President Evans.

MR. EVANS. If I could just add to what you said, Mr. Chairman, in our Chicago DSGE model and in our Brookings paper, the funds rate continues to be zero for a very long period of time. But it's not necessarily the fact that inflation goes up; it's really moving down the IS curve in our model. So it's going to depend on details of the economic situation. It does not have to lead to higher inflation, or certainly nothing very much in the period that could be referred to as the Woodford period. It could be referred to as the Williams period, I'm told, as well.

MR. WILLIAMS. Reifschneider–Williams.

MR. EVANS. Reifschneider–Williams, my apologies.

MR. WILLIAMS. We have our lawyers, who will contact your lawyers. [Laughter]

MR. EVANS. This preceded Professor Woodford by how many years?

MR. WILLIAMS. We'll let the lawyers work that out.

CHAIRMAN BERNANKE. We will have the precedence discussions later. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. I would refer both Presidents Bullard and Lacker to Iván Werning's paper, in which something like a Woodford period is an extremely effective part of monetary policy without any boost in inflation because prices are fixed.

I agree that our September actions, Mr. Chairman, have proven more successful than I, for one, expected. And I think the shift to the more forward-looking policy approach in the statement language was critical in achieving the success that we have seen so far. With that in mind, I am willing to support alternative B at this meeting. But I think I detected—as President Fisher referred to—a note of complacency in our discussion of our September actions yesterday. And I think as we look forward to December's meeting, I would caution against that complacency.

Yesterday in her remarks, Governor Raskin made her bid to add to the relentless Fed drive for acronyms with what she referred to as MMP: muddled messaging possibilities. And I think we can maybe avoid MMP by following what I am going to call ROMP, R-O-M-P: results-oriented monetary policy. ROMP means judging our level of accommodation not by historical standards but by how we are doing in terms of our dual mandate objectives. Now here, I fear the news continues to be challenging. The outlook for the labor market, however one chooses to measure it, is hard to describe as being consistent with the dual mandate. In terms of inflation, suppose you just want to think about price stability. The Tealbook forecasts for inflation remain below 2 percent for five years. This is after the policy accommodation we adopted in September. And this is consistent with the projections of those who voted for the statement last time, who have inflation running below 2 percent through the forecast period.

This path for inflation, and the associated path of labor market conditions, I think, is hard to think about as being consistent with the relentless pursuit of our dual mandate objectives that we have been given from the Congress. And, again, I would say that even if you were just purely a price stability person and all you cared about was inflation targeting—say, you worked at the Bank of Canada, and that's your job—this path would not be seen as being a success on the part of your operation.

So we follow results-oriented monetary policy and we should be doing something more. That raises the question of how we should be doing more. And there is probably something that can be done on the asset purchase front. I'm just not going to talk about that, though; I'm going to focus more on forward guidance. We could extend the date from mid-2015 to mid-2016, mid-2017. I think, as President Bullard alluded to, and we have talked about—and changed the statement language, in fact, because of this—extending the date is just problematic. The signaling component is very challenging for households and firms to extract and could just be perceived as our saying that the economy is going to be lousy for two more years. I think what is better would be to communicate that our reaction function is different from what is currently expected by market participants. The staff memo gives great guidance on this, and I was disappointed we didn't really dig into the details of the staff memo as much as I was hoping we would yesterday. I thought the staff showed, in the context of FRB/US, that the thresholds of 2½ percent inflation and 6 percent unemployment worked extremely well.

I would encourage them to go further, to explore 2½ percent inflation and 5½ percent unemployment, because I feel confident that that would actually work even better because it is more tailored to our dual mandate objectives. Why do these thresholds work well? We have talked about that yesterday. Part of it is delivering more accommodation, because you are surprising markets with your willingness to be more accommodative than they think. But a lot of it also has to do with this automatic stabilizer effect that I have been emphasizing. And for those who are worried about inflation risks, being as explicit as we are talking about being through thresholds is a great way for us to be vigilant against upside inflation risks.

The problem I heard yesterday about thresholds is the Committee wants to retain full optionality at all times, and I understand that. I think you can sit here in October of 2012, and you do not know what is going to happen in 2013, 2014, 2015, and that is fair enough. I think that the solution to this is to adopt strong, but not ironclad, language. I would be stronger than what the Vice Chairman suggested yesterday. I think "currently anticipates" is a little too weak for my taste. But I would say something along the lines of, "The Committee's current assessment is that as long as long-term inflation expectations remain anchored, it is unlikely"—I would prefer "highly unlikely"—but "it is unlikely to raise the federal funds rate until the unemployment rate has fallen below 6 percent or the inflation outlook has risen above 2½ percent." This is a way to try to get some of the optionality that people wanted around the table, while still conveying a sense that it would take something unusual for you to change these numbers. Where are the benefits of this? It means that the market expectations of when we're going to raise the fed funds rate will change in terms of the conditions that prevail when we're about to do that. All of this is obviously forward-looking toward December, but I hope to reengage in this conversation at that time, Mr. Chairman. Thank you.

CHAIRMAN BERNANKE. Thank you. President Pianalto.

MS. PIANALTO. Thank you, Mr. Chairman. I support alternative B. The intermeeting period has provided us with a mixed bag of information about the economy and financial market conditions. As you pointed out earlier, Mr. Chairman, several of us mentioned yesterday that the industrial and household sectors appear to be out of sync with one another. I hope that the period between now and our December meeting will shed more light on this dichotomy. I would like to see whether the housing sector continues to exhibit the gains it has displayed during the past two quarters, and whether holiday shopping turns out to be as robust as early signs suggest that it might be.

Of course, I would also like to see whether any momentum appears to be building in the labor market. In September, we told the public that more policy accommodation would likely be forthcoming if we did not see substantial improvement in the outlook for labor market conditions in coming months, and that we will continue asset purchases until such improvement is achieved. However, we have yet to define more precisely what substantial improvement means. In a vacuum, the public will fill that void, and I don't think that it is constructive for them to be hearing multiple and diverse interpretations from the Committee participants. So, clearly, we have some unfinished business. I do like the way that the Board staff has handled this issue in the baseline forecast. The asset purchase program stops when the outlook for the labor market improves rather than actually having to experience a long period of stronger job gains.

One additional point I would like to make is that if the Committee does conclude in coming months that more policy accommodation is appropriate, we should be open to considering more options than just alternative A in the current Tealbook. That is, it should not be a foregone conclusion that the next policy step is to augment our MBS purchases with Treasury purchases in the amount of $45 billion per month.

I think that our most recent action to acquire more MBS was successful in further reducing home mortgage rates, but I am skeptical about the likely benefits of additional Treasury purchases. We could, of course, add to the pace of MBS purchases, but it is not clear how much more room there is to do so without adversely affecting market functioning.

These are issues that I am sure we are going to be discussing at our December meeting, but I remain concerned that a decision to go beyond the scale of asset purchases we initiated last month, regardless of which kind of assets are purchased, could complicate our exit strategy, as Governor Duke mentioned earlier, and could present financial stability risks.

I understand that the risks and costs are difficult to estimate, but that doesn't mean that they should be discounted so much that we are minimizing their importance. Personally, I remain committed to evaluating the benefits and the risks associated with a larger, more open-ended LSAP program. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President George.

MS. GEORGE. Thank you, Mr. Chairman. Given the pace of the recovery, the elevated unemployment rate, and the current level of inflation, I expect monetary policy accommodation may need to remain in place for some time to provide continued support to this recovery.

That said, I remain concerned about the open-ended approach to expanding our balance sheet and the current rate guidance indicating that we expect that low rates "will remain appropriate for a considerable period of time after the economic recovery strengthens." My concern rests with how a prolonged period of highly accommodative policy could risk higher inflation and financial instability, in addition to complicating our exit.

I remain concerned that the ongoing expansion of our balance sheet poses upside risk to market-based measures of longer-term inflation expectations. Breakeven measures have a tendency to exhibit volatility, but the recent rise in response to our September actions is a reminder of the risk that further balance sheet expansion, as proposed in alternative A, could push longer-term expected inflation still higher, and potentially create some tension between what markets expect and our stated 2 percent inflation goal. Thank you.

CHAIRMAN BERNANKE. Thank you. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. I was opposed to the new round of asset purchases we undertook last time. My view on that really hasn't changed. I see the costs of the program as exceeding the benefits. I think the nature of the program makes it particularly important that we think hard about our stopping rule for our open-ended purchases.

I appreciate President Rosengren's comments about how if we go to a threshold system about the funds rate, we have to be very careful not to necessarily have people infer that what we mean by substantial improvement in labor markets isn't what we just told them in the thresholds. Distinguishing between what is the stopping rule for asset purchases as opposed to the funds rate guidance is going to be an important part of that communication, if we go with thresholds. I think there is a lot that we need to talk about in terms of that, and I am worried that if we don't get that communication right, we could have some very confused markets and bad outcomes.

Part of the reason I have been concerned about the nature of forward guidance and the challenges we face is I am not convinced, as some people are, about the quantitative effectiveness of this forward guidance. People seem to attribute movements in asset prices to be driving all of that, but I'm not sure that in terms of the real economy and the unemployment rate we have seen much benefit from that. So I am concerned about the effectiveness of our forward-guidance tools. Relying so much on that and relying on managing expectations, I think, is a very tricky game. Trying to signal, through a commitment that we may or may not be able to reach, that we are going to maintain low rates longer continues to make me concerned about the consequences that happen at the exit.

I am very concerned that the built-up effects of keeping interest rates too low, too long, so to speak, could actually cause long-term rates to rise very rapidly at the point when the markets begin to get a whiff of the idea that it is time to change policies. And we will have a long way to go to catch up to where, perhaps, standard policy might say it needs to be. And if that happens—interest rate risks, the effects on bank balance sheets, the effects in the market, the difficulties of interest rate risk on our own portfolio, and our ability to raise rates fast enough without losses and turmoil in the marketplace—that could be quite traumatic and quite challenging for us and for the economy. I hope not.

So, given that I don't think the effectiveness of that forward guidance is quantitatively as important as we seem to think it is, the risks on the upside are quite troubling to me. And we are taking potentially very large risks to achieve what I think are dubious and meager gains on our dual mandate, if you will. I think it is very important at our next meeting, as we continue to discuss the threshold argument, to combine that with how we are going to think about stopping rules for asset purchases and how those are going to relate to one another.

Okay. I do have one comment. I can live with alternative B, but I do want to go back to paragraph 2, because I think it is kind of confusing. President Kocherlakota focused on the last sentence on inflation. I actually think the confusing part of paragraph 2 is the second sentence:

"The Committee remains concerned that, without sufficient policy accommodation, economic growth might not be strong enough to generate sustained improvement in labor market conditions."

It seems to me we put that statement in last time to signal something about what the action was we were taking. At this meeting, we are not taking an action. I am concerned a bit that this sentence actually could be very much misinterpreted as saying that we don't think we have sufficient accommodation in place at this time or won't in the future. Is the interpretation going to be that this is signaling that we will continue to do more accommodation come January, when we really haven't made that decision yet?

So I am a bit worried about that sentence. I think it would be more straightforward to go back to a sentence that says something like, "The Committee outlook is for gradual improvement in labor market conditions." I think tying it in this paragraph to policy is what makes this paragraph confusing. The second paragraph, typically in the past, I think, has been a paragraph about our outlook for the key variables. And this is sort of saying something about policy—we make the statement later on, I think it's in paragraph 4, that we are prepared to take further action if we view our employment and price objectives at risk.

So I think putting this statement in the second paragraph is actually the source of confusion here. So my own modest suggestion is that we just change that second sentence, and then I think the paragraph hangs together better, and we still have the indication of policy in paragraph 4. So that is my suggestion, Mr. Chairman. Thank you.

CHAIRMAN BERNANKE. What would you change it to, President Plosser?

MR. PLOSSER. Because this is mostly about outlooks in paragraph 2, I think you could just change the second sentence to say, just like we've said before, "The Committee's outlook is for gradual improvement in labor market conditions." And not make some reference to whether the level of policy accommodation is sufficient or not sufficient at this point. You make that reference down later when we talk about policy actions and the prospects for future policy. That's just my suggestion. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Yellen.

MS. YELLEN. Thank you, Mr. Chairman. I support alternative B. I take President Fisher's point that we should not prematurely pat ourselves on the back, but overall I think our actions did elicit the financial market responses we expected, and that does serve to raise my confidence that our asset program will be efficacious over time, especially in providing support to the housing market. For today, I am happy with the statement language as it stands.

As I discussed during the economic go-round, despite some encouraging signals from the household sector and the recent decline in the unemployment rate, I have seen no evidence of any substantial improvement in the outlook for the labor market or any fundamental strengthening in economic conditions. And I would agree with Presidents Williams, Evans, and Rosengren on what substantial improvement in the outlook means. It seems to me that the dealers' expectations, their interpretation that we see in the dealer survey of what that means is quite reasonable and coincides with my own.

With a step-up in fiscal restraint expected at the beginning of next year, uncertainty about the resolution of the fiscal cliff and debt ceiling likely to escalate as we approach year-end, and the European debt crisis continuing to weigh on the economy, I would be surprised to see much, if any, further improvement in the labor market over the next few months. So I expect that at our December meeting, it will prove appropriate to extend our longer-term Treasury purchases beyond the completion of the MEP, and this expectation is now obviously prevalent in the markets.

I think that the changes we have made to our forward guidance have been quite well received. Market participants now expect the first tightening to occur in the second half of 2015, only after the unemployment rate has declined to around 6.8 percent. This is a downward shift of almost half a percentage point since March in market expectations concerning the likely unemployment rate at liftoff, and I think these expectations do reflect some element of understanding in the market that we do intend to be lower for longer or to provide somewhat more accommodation than a typical policy rule would call for.

Given the close alignment between market and Committee expectations concerning liftoff, the adoption of thresholds, as we have discussed yesterday and today, probably would not entail meaningful additional accommodation. But even so, I really think that adopting quantitative thresholds to further clarify our forward guidance would enhance its effectiveness, not just right now but particularly over the next several years, as the recovery proceeds and attention in the markets begins to focus more intensively on the likely timing of tightening. For all the reasons we discussed yesterday, and that President Kocherlakota has emphasized this morning, I think it is a good idea to include quantitative threshold language in our December statement. And I think President Kocherlakota this morning made some very constructive suggestions about how we might craft language to go about doing that.

CHAIRMAN BERNANKE. Thank you. Governor Duke.

MS. DUKE. Thank you, Mr. Chairman. I support alternative B, and the notes I brought into the meeting say that I said pretty much everything I had to say in the earlier round and have nothing further to add. But that’s not strictly true. [Laughter] I am going to stay out of the discussions of the Woodford period, or, given my loyalties, the Williams–Reifschneider period, and focus on the condition that I think is most important in the statement, which is in the last sentence of paragraph 4, and that is efficacy.

In judging the efficacy of policy, I will be watching the primary mortgage rate and its effect on home purchases and home prices. And my point yesterday was that I think we are going to need to be patient in making that judgment. President Fisher pointed out that house prices actually took off before QE3, but that is exactly my point. I think that was the first result of earlier reductions in the mortgage rate, and it was watching those initial signs work their way through to actual increases in house prices and, I think, consumer confidence, that leads me to believe that we are going to, again, have to be really patient and watch this. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. This morning has a bit of the feel of the NFL preseason, where some teams try out the whole playbook to see how the defense is going to react, and others are a little bit more cautious, and still others are trying to figure out what kind of offense they can run with the personnel they've got on the field. Being a fan of the New England Patriots, I am going to take the Bill Belichick approach. So let me say I support alternative B, and we will see you on opening day. [Laughter]

CHAIRMAN BERNANKE. Governor Raskin.

MS. RASKIN. I support alternative B. The additional accommodation that we put in place last month still seems appropriate to me. The recent improvements in the household sector notwithstanding, we are a long way from maximum employment. Payrolls continue to rise only gradually, and I think it will be some time before we see considerable momentum in the labor market.

At the same time, inflation appears to be well contained. Core inflation, which seems the most relevant measure right now as food and energy prices swing, looks like it is about 1¼ percent in the second half of this year. So, if anything, inflation may be on the low side. And survey measures of inflation expectations have ticked down. In addition, in my view, the primary risks to the outlook are still large and to the downside. For all of these reasons, I support keeping in place the accommodation that we agreed on in September.

In particular, our new "lower for longer" language begins to clarify for economic agents our commitment to better outcomes, more in line with our mandate. With this forward guidance, the lower tail of possibilities that households and businesses might worry about gets cut off. For instance, the odds that this Committee begins to tighten at the first sign of good labor market news and prematurely slows the economy now seem reduced. Similarly, the chance that this Committee will greet worsening economic data with a shrug and a "we've done all we can" probably seems less likely to economic participants.

In September, we not only changed our forward-guidance language, we also backed up that strong language with flow-based large-scale asset purchases. In my view, this combination of clearer forward guidance and asset purchases may currently be having a beneficial effect, not only on interest rates but also on public expectations of where the economy is headed. I continue to believe that there is a strong argument to be made for being even more explicit with our forward guidance. In particular, I think now would be an excellent time to introduce quantitative thresholds in the context of qualitative guardrails, as a refinement of the work that we did in the September meeting. We have taken the first step in clarifying our policy, and market participants seem to have understood it pretty well. However, the longer we wait to adopt explicit thresholds, the higher the likelihood that our message will become muddled.

If we decline to clarify our thresholds, markets and the public will be confused about what they are, and speculation likely will fill that vacuum. Bloggers and editorial writers, and maybe even individuals at this table making speeches, will likely start to offer opinions about what those thresholds are and should be. It seems to me that by allowing others, rather than the Committee as a collective whole, to frame that discussion, we are shirking our responsibility to communicate clearly and to help shape expectations.

As argued so well this morning by President Kocherlakota, confusion about our thresholds could also affect inflation expectations. If outsiders begin to believe that we have a lower inflation threshold than we do, when inflation moves above that level, there might be some concern that we have lost our resolve or our ability to keep inflation in check, thereby raising inflation expectations.

Thus I am ready to implement thresholds because I think they will enhance the clarity of the policy moves we made last time. I also think that as we continue to wrestle with the effectiveness of large-scale asset purchases, the need to focus on refining our forward guidance becomes increasingly more pressing. That said, I am content to support alternative B at this time.

CHAIRMAN BERNANKE. Thank you. Governor Stein.

MR. STEIN. Thank you, Mr. Chairman. So we have heard from Gary Cooper and Bill Belichick. I guess it is to me to play the role of Woody Allen and go on at some length about my personal neuroses. [Laughter]

I support alternative B, but I do want to say a few words in looking forward to December about alternative A because, obviously, we are going to have to start thinking about pace, composition, and duration of asset purchases. So I am not going to try and advocate anything at this point, but I do want to lay out a few of the issues. One way to frame the problem that we face is that as long as we are falling short on the employment leg of our mandate, and as long as inflation is contained, we want to maximize the stimulus we can provide, but subject to two constraints. One is not overly degrading market functioning in either the Treasury or the MBS market, and the other is some kind of limit on total balance sheet size to the extent that we think that a larger balance sheet is associated with some form of cost, be it in the form of either expected losses on our positions, strains in money markets, or a more challenging exit.

To make an example, you might say, "Well, we're willing to do something like $500 billion more in total," and then the problem becomes one of, do we want to do it at an $80 billion pace for 6 months or at a slower pace, say, $40 billion for as long as 12 months? If you pose the problem this way, would there ever be a reason not to go out of the gate fast? That is to say, would there ever be a reason to not go out at the $85 billion pace, understanding that all else equal, there is a shadow cost of the balance sheet that would constrain you to do things for a shorter period of time?

So my thinking is that, in a world where Treasury and MBS purchases are relatively close substitutes, and where all that really matters is the amount of duration that you are taking out of the market, the two options should be roughly similar. And I would think, in fact, there is a small presumption in favor of the higher initial flow rate because, all else equal, you are getting the purchases done sooner, so the total amount of stimulus is a bit greater. That feels to me like the classical argument that you would make here.

I think if you want to take the other side, a necessary condition is you are going to have to argue that Treasury and MBS purchases are not perfect substitutes. And we have heard a little bit about that in the last couple of days. So, for example, if you think that MBS purchases are more helpful to the economy because there is more potential to stimulate stuff related to housing, then in the presence of some kind of shadow balance sheet constraint, you might have an argument to go slower because, all else equal, if you go slower you can continue the MBS purchase piece of it longer. You will have more head room to do the MBS purchase piece. So I suspect there is a case to be made here, and I have alluded to it, others have alluded to it. I don't want to say it is an empirically validated case, but I think it is something worth trying to get a more precise handle on.

Another dimension on which Treasuries and MBS differ is exit, and this has also been alluded to; Governor Duke mentioned this. If we are getting into a zone where we think the sheer size of the balance sheet may complicate the process of exit, I suppose you could argue that that is an advantage of MBS, to the extent that they have a shorter duration and tend to run off on their own without having to be sold. On the other hand, if we're determined, as in the exit principles, to actually get rid of the MBS before they run off by selling, I think that complicates things, because I think it is quite possible that liquidity in the MBS market will have been compromised by the fact that we will have occupied such a large space in this market.

A final point, just to flag, is that in December—this has come up before—we are going to have to really wrestle with the potential divergence that has been pointed out between market expectations for the path of policy and our own admittedly heterogeneous views about the cost of expanding the balance sheet. As has been noted, the market very clearly expects us to come out of the gate at an $85 billion flow, so I think there is going to be a natural temptation to want to deliver that so as to not disappoint the market. But, of course, the market also expects—and I think it is an expectation that is a reasonable one, given what we have said—this program to go on until early 2014, which implies a balance sheet somewhere north of $4 trillion.

So if there are broadly felt misgivings about that prospect, I do think it is important that we confront them in December as opposed to kind of just going with the flow and dealing with that problem later. And this is very inherently a dynamic problem. If there are constraints of this sort, I think they have to be factored into the whole path of the policy rather than pushed off into the future. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Powell.

MR. POWELL. Thank you, Mr. Chairman. So we have had Gary Cooper, the Most Interesting Man in the World, Bill Belichick, Woody Allen, and now Hamlet. [Laughter]

I support alternative B, to relieve the suspense. And as far as what is to be decided at the next meeting, it seems to me we should let it be decided at the next meeting. But I will say that if we have another good run of data, I think there would be a strong case to defer action. And I don't see us as committed to act unless conditions warrant.

I have concerns about more purchases. As others have pointed out, the dealer community is now assuming close to a $4 trillion balance sheet and purchases through the first quarter of 2014. I admit that is a much stronger reaction than I anticipated, and I am uncomfortable with it for a couple of reasons.

First, the question, why stop at $4 trillion? The market in most cases will cheer us for doing more. It will never be enough for the market. Our models will always tell us that we are helping the economy, and I will probably always feel that those benefits are overestimated. And we will be able to tell ourselves that market function is not impaired and that inflation expectations are under control. What is to stop us, other than much faster economic growth, which it is probably not in our power to produce?

Second, I think we are actually at a point of encouraging risk-taking, and that should give us pause. Investors really do understand now that we will be there to prevent serious losses. It is not that it is easy for them to make money but that they have every incentive to take more risk, and they are doing so. Meanwhile, we look like we are blowing a fixed-income duration bubble right across the credit spectrum that will result in big losses when rates come up down the road. You can almost say that that is our strategy.

My third concern—and others have touched on it as well—is the problems of exiting from a near $4 trillion balance sheet. We've got a set of principles from June 2011 and have done some work since then, but it just seems to me that we seem to be way too confident that exit can be managed smoothly. Markets can be much more dynamic than we appear to think.

Take selling—we are talking about selling all of these mortgage-backed securities. Right now, we are buying the market, effectively, and private capital will begin to leave that activity and find something else to do. So when it is time for us to sell, or even to stop buying, the response could be quite strong; there is every reason to expect a strong response. So there are a couple of ways to look at it. It is about $1.2 trillion in sales; you take 60 months, you get about $20 billion a month. That is a very doable thing, it sounds like, in a market where the norm by the middle of next year is $80 billion a month. Another way to look at it, though, is that it's not so much the sale, the duration; it's also unloading our short volatility position. When you turn and say to the market, "I've got $1.2 trillion of these things," it's not just $20 billion a month—it's the sight of the whole thing coming. And I think there is a pretty good chance that you could have quite a dynamic response in the market. And I would just say I want to understand that a lot better in the intermeeting period and leave it at that. Thank you very much, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. I think I will just be myself. [Laughter] I support alternative B as written. I think what we did at the last meeting was successful in a number of respects, but, obviously, things are still very tentative.

First, we showed a high-level commitment to persist with an accommodative monetary policy regime. I think this did have a beneficial impact on confidence. The fact is that if households and businesses anticipate that there will be a sustained economic recovery, then that makes the recovery more likely. So I think how we present ourselves, in terms of our determination to achieve that outcome, is important.

Second, the mortgage-backed securities purchases did have a large effect on the spread between agency MBS yields and Treasuries. In fact, the impact was somewhat larger than I would have anticipated.

Third, it was well understood by market participants and the press why the additional QE took place in the agency MBS market. Providing support for housing is viewed as a credible means of supporting economic activity more generally.

Fourth, the effect on inflation expectations was relatively muted and mostly short-lived. It is true that five-year, five-year forward rates are slightly higher now than before the last meeting, but the increase does not appear to be outsized. Some increase was to be expected, given that we are essentially removing some of the downside tail risk through our actions. Importantly, we still remain firmly within the range of recent years. Moreover, there is no evidence that our actions caused inflation expectations elsewhere to become unmoored. If you look at the University of Michigan's most recent result, five-year forward expectations actually declined in the mid-October report from the September reading. And, similarly, as Simon noted in his briefing, the primary dealer survey showed no rise in dealers' probability assessment about whether inflation would be 3 percent or higher over the longer term.

And then, finally, the outcry about QE, I think, both in the political realm here and internationally was more muted than I would have anticipated. So the costs in terms of the noise around our policy decisions were lower than I would have anticipated.

Thus, given this and uncertainties and downside risks to the forecast, I think it is very important that we not be seen as walking any of this back, just because some people might view the recent data as a little bit better than we had thought. As I noted in a speech last week, there are reasons to conclude that monetary policy has not been sufficiently accommodative in recent years to generate the progress to full employment that we had hoped to achieve by now. We had been persistently disappointed about the economic growth outcomes, and I agree that we can put some of this on shocks and other factors, such as Europe. I do think that some of it is on us. So I look at last month's actions as a remedy to the fact that we were falling short before that point.

With respect to the statement, I favor very much a minimalist approach at this meeting. I don't want to make significant changes to our assessment of economic conditions because that might imply that we are taking considerable signal from recent developments. As I said earlier, I think the signal is very weak, and we shouldn't overstate what we have seen. I know, for one, that the recent data have not caused me to alter my outlook in a meaningful way, especially with the fiscal cliff and euro zone risk still looming.

Finally, with respect to the issue of the Tealbook assumption about asset purchases and the dealers' expectations, I find myself somewhere in between. It seems that, with the unemployment rate at 7.9 percent, the Tealbook expectation is a little too early to say that there has been substantial improvement in the labor market outlook. But I can certainly imagine before the first quarter of 2014, we could see more rapid improvement in the labor market and be more comfortable that that was going to continue.

So it is not just about the improvements. It is also the probability—the comfort level that you have that it is going to continue. So I think somewhere in between would be where I would land, and I think the staff should try to think about whether the $750 billion assumption is the right assumption, given the language in the statement.

CHAIRMAN BERNANKE. Thank you. And thank you, all. So, obviously, there is no sentiment for action today; alternative B was widely supported.

We have a lot to do and a lot to learn by the next meeting. We have two labor market reports. We should learn something about the resolution of the fiscal cliff and fiscal policy developments more generally, so we will have some broader knowledge base.

In terms of what preparation we have to do, I don't think we know yet exactly what purchase program we would undertake. It depends on the data. It also depends on our further analysis. We need to think about the implications for market functioning and exit, as well as the efficacy of the various programs. So that is something that the long-suffering staff will have to confront.

Communication will be important. I think we need to reflect a bit on our discussion from yesterday on thresholds. There is clearly a desire to use state contingency, if possible, but a range of views on exactly how to do that. And I think we would need to have some discussions about whether we can find a common ground that will improve our communication.

And I also take note of the importance—I think President Lacker raised it, maybe President Plosser—of making sure that we distinguish the stopping conditions for asset purchases from those for rate policy, because those obviously are going to be quite different. I think it's clear that we would want to use asset purchases in a directional sense to try and promote some momentum, and rates, in contrast, would remain low until we see recovery. So those are somewhat different objectives in that respect.

In terms of language, there were a few suggestions. Governor Raskin didn't raise her energy prices point again. Are you okay with it where it is?

MS. RASKIN. Completely.

CHAIRMAN BERNANKE. Okay, good. President Lockhart suggested strengthening the housing sector statement. We could say, for example, "Conditions in the housing sector have continued to improve, albeit from a depressed level." That's a little stronger than saying "further signs of improvement," or I'm willing to go all the way to what you suggested. I don't know if there were other views on it.

MR. LOCKHART. It's not a burning issue.

CHAIRMAN BERNANKE. Yes, I know.

MR. LOCKHART. It's just that we've continued to state that meeting after meeting after meeting. And in the meantime the housing sector has evolved, and at some stage we should bring it up to current, it seems to me.

VICE CHAIRMAN DUDLEY. It's accurate; it's showing further signs of improvement.

CHAIRMAN BERNANKE. It does say that things are getting better, meeting to meeting. So it does have that sense. Okay. I thought hard about President Plosser's concern about the second sentence in paragraph 2. If others have a view, you should say it. I think we're protected there. I think it's clear, but if we're not, we're protected by paragraph 3, which is quite explicit about what we're actually going to do. So I don't think there's any inference taken that we've changed our policy, but I'm happy to—

MR. EVANS. What's the suggestion then?

CHAIRMAN BERNANKE. President Plosser was concerned about the second sentence in paragraph 2, concerned that that somehow suggested that we were going to take additional action beyond what we proposed in September.

MR. PLOSSER. Excuse me. Or perhaps it might be inferred that we don't believe sufficient policy accommodation is currently in place.

CHAIRMAN BERNANKE. Again, we don't, if we take what's in place.

MR. PLOSSER. Well, we may not in the future. Is it saying something—

MR. FISHER. Mr. Chairman?

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. May I make a suggestion? I think it would convey what it appears the majority of the Committee feels just by saying "The Committee remains concerned that economic growth might not be strong enough to generate sustained improvement in labor conditions," or "The Committee remains concerned about the economy's ability to generate sustained improvement in the labor market conditions." That's really what we're saying. Why do we have to include "sufficient policy accommodation"?

CHAIRMAN BERNANKE. Well, because we're saying that if we do sufficient policy accommodation, we hope to get a better result.

MR. FISHER. As you just said, we don't know what we're going to do in the future; you just said that in your summary. We're still conveying the same point: That's our concern. Our concern is whether we have sufficient economic growth to generate improvement in labor conditions. I think that's the point Mr. Plosser is making.

CHAIRMAN BERNANKE. President Bullard.

MR. BULLARD. Yes. I think this second sentence could be counterproductive. You want to say that we've embarked on a path that we have confidence in and that is going to have the desired effects. So I'm a little worried about that, but I'm happy to go with what you think. But I think it could be construed as counterproductive. What's helping us here is that it's not a big change from the last meeting, so people could say that we just left that in there.

CHAIRMAN BERNANKE. Right. President Fisher, I think your suggestion might actually say that even after what we said last September, we remain concerned.

MR. FISHER. We are, we are.

CHAIRMAN BERNANKE. I know, but it falls into the trap that President Plosser is concerned about, that it might be saying that we want to do even more than we suggested we might do in September, and I don't think we want to communicate—

MR. FISHER. Well, I'm not going to fall on my sword over that one. I don't think it's a big deal. I like Dennis's point, though, just taking out "albeit from a depressed level."

PARTICIPANTS. But it is depressed.

CHAIRMAN BERNANKE. All right. Okay.

MR. FISHER. We've been saying it repeatedly. It is true, but it is still continuing to improve, period.

CHAIRMAN BERNANKE. President Evans.

MR. EVANS. The thing about paragraph 2 is, it starts off by referring to our statutory mandate, so it's about policy. I think it's entirely appropriate to have some kind of policy conditioning in there. And then the other thing is it sets up paragraph 3 so well, and that seems to be the intent—"To support a stronger economic recovery"—and we think this is going to have a positive effect. That's what we're trying to achieve. So I thought that was—

MR. FISHER. I'm just trying to help with two suggestions, but if it's not helpful, I'll drop it.

CHAIRMAN BERNANKE. President Lockhart.

MR. LOCKHART. I have to say I'm a little confused, maybe, about the debate around paragraph 2, but my simple reading of it is that we're kind of repeating what we said last time, but we're continuing to express the concerns about sustaining policy accommodation. So if you substitute the phrase "without sustained and sufficient policy accommodation" or "without sustained policy accommodation," I think the rest of the paragraph continues to work.

CHAIRMAN BERNANKE. That's fine with me.

VICE CHAIRMAN DUDLEY. What's the suggestion?

CHAIRMAN BERNANKE. Change "sufficient" to "sustained."

MR. STEIN. "Sustained" would seem to hint that you're going to do more purchases of Treasuries.

VICE CHAIRMAN DUDLEY. I think it might be a little too forward leaning.

MR. STEIN. It might be forward leaning, yes.

CHAIRMAN BERNANKE. Okay. All right. May I—

MR. FISHER. It's less Gary Cooper–ish. Leave it the way it—

CHAIRMAN BERNANKE. In the interest of efficiency, may I ask that we stay with where we are?

PARTICIPANTS. Yes.

CHAIRMAN BERNANKE. Okay. So let's go ahead and vote on alternative B as written. Thank you.

MS. DANKER. This vote is on alternative B 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 very much. Why don't we take 15 minutes for coffee, and then we'll take the last item?

[Coffee break]

CHAIRMAN BERNANKE. Okay. Why don't we reconvene? We're on the final item, item 5, "Experimental Consensus Forecast." This is something we've been talking about for a few meetings. The Summary of Economic Projections does a great job of showing the diversity of views, but I think the Committee felt there was a need to show a more coherent representation of the consensus perspective of the Committee, both to explain our policy decisions and to give the public a chance to better identify our reaction functions. Also there was some hope that we could build this into a regular reporting, like a quarterly monetary policy report. So in that spirit, we have undertaken a couple of exercises to try to see how it might work. I think we learned a great deal from those exercises, and what we want to do today is discuss whether we want to continue the experiment and, if so, in what direction. So we have a brief presentation of yet another very good staff memo, and Jeremy Rudd will lead the discussion. Jeremy.

MR. RUDD.[5] Thank you, Mr. Chairman. I will be referring to the handout titled "Material for Staff Presentation on the Experimental Consensus Forecast."

The Committee has now completed two experiments in constructing a consensus forecast that could be used to elucidate the rationale for the Committee's policy decision. To assist in your process of taking stock of where this initiative stands, the Chairman asked the Board staff to draft a memorandum describing what we have learned from these exercises, including what the exercises revealed about the difficulties associated with producing a consensus forecast. In addition, the staff was asked to consider possible options for continuing work on the development of a consensus forecast, and to identify possible enhancements that could be made to the SEP that would allow it to attain some of the benefits sought by a consensus forecast. This memorandum was circulated to the Committee before the FOMC meeting; its main findings are summarized in the first exhibit in the handout.

As noted in the upper panel of exhibit 1, the consensus forecast exercises revealed some key issues for FOMC decisionmaking and communications that would need to be addressed if the Committee were to publish a consensus forecast. Perhaps the most important of these stems from the fact that an integral part of a consensus forecast would be a transparent specification of the expected paths of the federal funds rate and the SOMA portfolio over the projection period and beyond. In other words, a consensus forecast would necessarily go beyond the Committee's postmeeting policy statement (as it is currently designed) by outlining the Committee's intentions over the next several years. This raises at least two potential problems.

First, reaching a consensus on the appropriate medium- and longer-term policy path could be extremely difficult. In particular, participants who could agree on the appropriate policy action to be taken at a given meeting might nevertheless disagree about the appropriate stance of policy further out in the future. For example, in the current situation, participants might disagree about the likely evolution of asset purchases beyond the end of this year. Such disagreement could make participants much more reluctant to support the policy statement, the consensus forecast, or both if the public came to see the published forecast as providing the "correct" interpretation of the statement's implications for future policy. This issue seems particularly relevant in today's unusually complex policymaking environment, when unconventional portfolio actions and forward guidance are important policy tools. But I would note that even in normal times, the FOMC has typically only described its policy decision in terms of the change in the funds rate agreed to at a particular meeting, not the anticipated future path of policy.

Second, presenting a consensus medium- and longer-term policy path could lead to communications challenges. For example, specifying an explicit path of the SOMA portfolio in the consensus forecast might make it harder to describe such a program as state contingent (if that were the Committee's intention), and could

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

mislead the public into thinking that the conditions governing the evolution of the portfolio are more clearly defined than is actually the case.

The consensus forecast exercises also revealed some important production-related challenges. First, because the Committee's policy decisions are not known in advance of the meeting, it would be impossible to guarantee the production of a forecast that incorporates the Committee's policy decision in time for the Chairman's press conference. The required delay, of course, would reduce the usefulness of the forecast for communication purposes.

Second, participants appear to be unclear about how they should determine whether they support the proposed consensus outlook. At the September meeting, many participants found it difficult to answer the question "Do you broadly support the proposed consensus forecast, support it with reservations, or not support it?"

While these various governance, communication, and production issues present formidable obstacles, participants could nonetheless decide that the potential benefits of continuing to struggle with them outweigh the costs. If you choose to go that direction, we see several possible avenues that could be explored—though none of them would be guaranteed to meet with success.

These potential avenues are summarized in the lower-left panel of the exhibit. First, to address the important communication and decisionmaking issues that arise from the need to specify a full policy path, the Committee could explore the possibility of formally voting on the medium- and longer-term policy path and incorporating the resulting decision into the postmeeting statement. It seems likely, however, that this approach would greatly complicate the Committee's deliberations and could impair its ability to reach a consensus.

Alternatively, the Committee could examine the feasibility of conditioning the consensus forecast on market expectations for policy. This approach would simplify the production of a consensus forecast in some respects. But in an environment where the FOMC faces unusual constraints and is using multiple unconventional tools to advance its policy objectives, the Committee would almost certainly need to provide additional commentary to enable the public to correctly interpret the policy implications of a forecast based on market expectations rather than the Committee's collective view about appropriate policy. Hence, using market-based expectations runs the risk of significantly complicating the FOMC's communications challenge without reducing the need for the Committee to reach agreement on the likely future course of monetary policy required to achieve its goals.

Yet another avenue to explore is whether it would be possible to publish projections under a set of "bracketing" policy alternatives that span the Committee's collective judgment as to the likely range of appropriate policy paths. By allowing for a wider range of policy outcomes (rather than a single policy path), bracketing scenarios could make it easier for participants to reconcile the economic and policy outlook with their various interpretations of the statement. However, the public might find it difficult to discern the collective judgment of the Committee from a set of multiple scenarios.

As an alternative to the consensus forecast, the Committee might instead wish to consider modifying the existing SEP. Some possible enhancements to the SEP are summarized in the lower-right panel of the exhibit. For example, the current information in the SEP could be augmented to include medians of the projections of participants who voted for or otherwise supported the policy action. (Our presumption here is that the SEP would also continue to summarize the responses of all participants.) In this case, the SEP might provide a clearer reading on the collective thinking of those who supported the Committee's action. Relatedly, the graphical information shown in the SEP could be color-coded to distinguish voters from nonvoters. Of course, the Committee could also decide to publish the full matrix of SEP submissions, with or without attribution to individual participants, in order to align each participant's view of appropriate monetary policy with his or her economic outlook.

Finally, the subcommittee on communications circulated a memorandum earlier this month with a list of specific questions for discussion at this meeting. For reference, those questions are reproduced on the second and third pages of the handout. Thank you.

CHAIRMAN BERNANKE. Thank you, and thank you again for very good work on this background memo. Are there any questions for the staff? [No response] All right. If not, we'd like to get views of the Committee participants on this initiative. There are 13 questions on this list, so please don't feel obligated to go through every single one. We just prefer to get your overall sense of what you think we ought to be doing. Let me start with Governor Yellen, who, of course, is the chair of the subcommittee that has been working on this issue. Governor Yellen.

MS. YELLEN. Thank you, Mr. Chairman. When we launched the consensus forecast initiative in June, we did so based on the premise that a consensus forecast had the potential to significantly enhance the Committee's communications by clarifying the rationale for our policy decisions. We agreed to explore this initiative in a systematic and deliberate manner, and I think the two experiments we have conducted yielded a number of valuable insights. I'd like to thank the staff for the memo and presentation, which summarized the most important lessons and our options for either continuing the initiative or, alternatively, pursuing enhancements to the SEP.

My subcommittee circulated a memo with questions. The first group of questions concerns possible directions for further development of the consensus forecast. The second set pertains to possible modifications of the SEP. And finally, bottom line, we'd like to know which of these two routes you consider to be more promising in terms of improving communications.

Personally, I would say that I think there is a problem with our communications, and I think we need to address this problem one way or another. So I do consider it very important that we decide today which path for providing further information about the rationale for our policy decisions is apt to be most effective, and that we make progress on providing this information soon. The memo highlights what struck me as the biggest challenge associated with the consensus forecast, namely, that we would need to reach agreement one way or another about the future path of monetary policy, including, in current circumstances, the path of the balance sheet on which the forecast would be conditioned.

If we detach ourselves from the policy paths incorporated in the forecast by describing them as merely illustrative, or if we instead resort to conditioning on financial market expectations of the federal funds rate and the balance sheet, we would end up depreciating the value of the forecast for its core purpose, which is to explain the rationale for whatever policy decisions we make. If, on the other hand, we condition on the path with which those who support the statement can associate themselves, I fear that the task of reaching agreement at any given meeting may become unmanageable.

Of course, our inclusion of forward guidance in our statements has taken us some ways toward communicating a consensus about monetary policy sometime in the future, but this guidance has often been a bone of contention, and not all of us always agree on its interpretation. To go forward with a consensus forecast, we would need to go beyond agreeing on, for example, the time of liftoff to also agree on the post-liftoff pace of firming and the ultimate level to which the nominal funds rate is expected to converge. The problem of reaching consensus on the future path of policy is even more severe now, given that we're operating with two tools.

When I think back to my first stint on the Board, I think it's fair to say that we have made enormous progress in communicating to the public the rationale for our conduct of monetary policy based on a coherent framework with well-specified goals and objectives. But specifying a forecast based on a common, agreed-upon path of policy under all kinds of contingencies is, I'm afraid, still a project for the future.

The other questions we have posed concerning the consensus forecast are almost as hard as the first one. I think it would be much more desirable to have a consensus forecast conditioned on the policy action taken at the current meeting, but the cost from a communication standpoint of not having the projections available in time for the Chairman's press conference is quite high. The reality is that a comprehensive Committee forecast seems to work well for committees the size of the Bank of England's or the Riksbank's, but probably not for us, given our size and geographic diversity. For that reason, the issue of how to convey the degree to which participants associate themselves with the forecast is much more difficult in our context.

So for all these reasons, I've reluctantly concluded that we may be better served by exploring enhancements to the SEP that would enable it to provide greater clarity about the outlook that motivates our policy decisions. Because these decisions are ultimately taken by those members supporting the statement at any given meeting, I find it eminently sensible to publish the median of the projections of those members. Not only does this focus attention on the projections of those whose preferences the policy decision reflects, but also the collection of median paths for real activity, inflation, and the funds rate should come much closer to presenting an internally coherent outlook. The materials that were circulated to illustrate how these medians differ suggest that there hasn't been much difference with respect to the economic projections of those who voted "yes" and others, but on a few occasions, there have been noticeable disagreements about the associated policy paths.

I'd also strongly support publication of the scatter plot of combinations of inflation and the unemployment rate prevailing at the time of liftoff. If we introduce quantitative threshold language, this would seem a perfect complement to these thresholds. But even without thresholds, the scatter plot is quite informative about participants' views concerning economic conditions consistent with liftoff. Releasing both the median projections of those who voted "yes" and the scatter plots are steps that have very high value and require almost no additional logistical effort. I think we should start doing so as soon as possible.

Given that we released to the public our projected time of liftoff, it seems only logical to release some information concerning our projections for the balance sheet, which is currently of interest and concern to markets. However, there are several possible options here. For example, we could disclose the date at which we expect to stop purchasing assets or the ultimate size that we expect the balance sheet to reach. And here, I think we should carefully evaluate our options before taking any decision, to avoid the risk that publishing balance-sheet-related projections could undermine the efficacy of our asset program.

As for the other proposed modifications, I'm entirely comfortable with circulating individual SEP submissions internally, with names attached. In fact, seeing the submissions and commentary that we provided for the consensus forecast experiments helped me understand better the thinking of some of my colleagues around the table.

I'm not opposed to coloring the dots, that is, providing some information about whether a particular projection was made by a current voting member, but if we stop there, we know we will only fuel further speculation among Fed watchers about the identities of the dots in our liftoff chart. Moreover, coloring the dots doesn't help to link participants' views about policy with their economic projections. So that suggests going further to publish the SEP full matrix, with or without attribution, perhaps with an indication of which participants are voters. My guess is that Fed watchers will quickly guess the identity of many of the matrix rows. So, ultimately, we should only move in this direction if we're comfortable with full attribution. I am not unalterably opposed to this step, but I admit to some qualms. With individual attribution, each of us will have to be prepared to defend our forecasts and explain the methodology on which they're based, a situation that may eventually prove uncomfortable for those of us who lack the necessary background and staff resources to prepare a rigorous and independent forecast.

So to conclude, even though I do not advocate continuing the consensus forecast initiative at this time, I believe we've gained useful insights, and it has served to sharpen our collective understanding of the commonalities and differences in our views and thinking. If it has thereby enhanced the quality of our discourse, it has, to my mind, been well worth the effort. I'm optimistic that we can take meaningful steps toward better communications through SEP modifications, and my subcommittee would be happy to work with the Chairman to propose concrete steps.

CHAIRMAN BERNANKE. Thank you.

MR. TARULLO. Mr. Chairman. Could I just ask Janet to clarify, because I started taking notes too late? Janet, if we look at the questions for discussion that the staff passed out, I think you addressed each of these, but I was just trying to figure out whether you did, in fact. This would be the sub-questions under number 2. I think, if I understood correctly, you're for A.

MS. YELLEN. I'm for A. I'm for B, possibly C, and possibly D.

MR. TARULLO. D possible, but think about it?

MS. YELLEN. Yes, but we have to decide how to go about doing that.

MR. TARULLO. Right. E—you said to think hard, right?

MS. YELLEN. Yes, I'm a little bit worried about that. F, yes.

MR. TARULLO. F, yes. Okay. Thank you.

CHAIRMAN BERNANKE. Let me turn to President Fisher.

MR. FISHER. Thank you, Mr. Chairman. I agree with Governor Yellen that a modification to the SEP is probably the best course to follow. I just offer the following thoughts very quickly. I think in any communications exercise designed to look beyond the near term, it makes little sense to exclude the views of those presidents not currently voting. They will be voting, and we change the composition of the voters as we go through time. So that would be point number one. Point number two is, I would argue against excluding the views of any dissenters because the views of today's dissenters, thoughtfully argued, may well influence the decisions of the Committee going forward. So that's a general comment.

I'm in favor of modifying the SEP, but in terms of what we publish, I don't think it should exclude some participants. It should not just be members only. With the specifics, I'm just going to address some very, very quickly. I think the best way to modify the SEP, probably, is to publish the median projection of all participants. After all, medians are insensitive to extreme views. The tightness of the range—which I expect will be fairly tight—of the central tendency around the median is a measure of the degree of consensus among the Committee. The median projection of the funds rate could be plotted if you wanted to go this far, along with the paths prescribed by a fitted outcome-based rule or other simple rules to reveal whether participants believe a departure from business as usual is warranted. This would tell whether views can be well approximated by a simple alternative rule. That may be too radical a proposal. My point is that I think publishing a central tendency is probably the best way to approach this, and I would include all participants.

With regard to specific questions, I'll comment on just a couple that Janet mentioned. I'm not sure that publishing a scatter plot accomplishes a great deal, because the decision to raise the funds rate may depend on variables other than the current unemployment rate and inflation over the past year, as we've discussed around this table. For example, it may depend on the change in the unemployment rate or, if we wanted to go as far as what my staff has been advocating, a nominal income gap. So that's the point that I want to make there.

From the standpoint of individual attributions, I have sort of mixed feelings about this. One of the things I'm concerned about if we were to do this publicly is that participants might become less willing to modify their views in response to new information or arguments of their colleagues and more intent on defending their views. And they may pull their punches a little bit. As a consequence, they may be a little bit reluctant to share their true opinions when they provide their input.

Then the question Janet raised, I also have a question about, which is whether we would publish internally our individual SEP submissions. I've noticed in our discussions of the SEP that they sort of come forward, but what I would worry about here—and, again, this is my own phobia—is that certain names might be leaked over time, and then we would just sort of add to the possibility that that would occur. So I have a question mark about that, Janet, as to whether we should—if we're not going to release them publicly—actually release them internally. Although, you know, you can usually tell where people stand, and often people—I do—volunteer that information.

Mr. Chairman, as you know, I have to leave a little bit early, and I apologize for being so concise, though I'm sure people welcome my being concise. Thank you very much.

CHAIRMAN BERNANKE. Thank you. President Williams.

MR. WILLIAMS. Thank you, Mr. Chairman. So from my office, I can look out over the San Francisco Bay and watch the new America's Cup sailboats go by on their trial runs in preparation for next year's race. These boats are very well researched, with high-tech materials and state-of-the-art designs based on computer simulation. They are also supported by an extraordinarily hard-working and expert crew and support team. Despite all of that, last week during a trial run, one of these $8 million wonders ended up in tatters after violently pitch-pulling into the Bay, and it effectively destroyed the boat.

So that brings me to the topic of the consensus forecast. Put simply, it is time to abandon ship. [Laughter] The staff memo did an excellent job—I know you hear that all the time, but I thought this memo truly hit all the important points, highlighting the many difficult issues involved in preparing consensus forecasts with the goal of advancing our policy communication objectives. And Governor Yellen has already covered many of these points, so I will try to be concise. I agree with everything that was said in the staff memo, and I agree with the points that Governor Yellen made, too.

I will mention that the trial runs and all of the associated counterfactual projections that we were asked to do were an even larger burden on System staff than I had anticipated. This experience has made me even more convinced than before that our communication goals can be better accomplished, and much more easily achieved, by focusing our efforts on enhancing the SEP rather than pursuing a consensus forecast at this juncture.

The trial runs revealed that perhaps the biggest challenge in implementing the consensus forecast is the monetary policy assumption. As Jeremy noted, and Governor Yellen noted, the consensus forecast needs to be conditioned on a path for monetary policy that covers all aspects of monetary policy. Coming to broad agreement on the entire policy path, including the balance sheet, every forecast round seems, to me, a very difficult task. But using the market-implied or status quo path for policy also seems to me deeply problematic. For example, before the Committee introduced strong forward guidance back in August of 2011, financial market participants generally expected the funds rate to lift off from the zero bound in only three or four quarters. This expectation was out of sync with the Committee's views. If I had been asked to condition my forecast on the market policy path during that time, my forecast would have had unemployment rising significantly and inflation spiraling down toward deflation. So I think publishing such a dismal forecast would not have enhanced our communication with the public at all.

I have a similar response to the idea of a status quo forecast based on the policy from the previous meeting. I think it has similar problems. Importantly, that kind of approach does not yield a forecast that would enhance our communications with the public.

To my mind, the only assumption for monetary policy that produces a truly informative forecast is the assumption of appropriate monetary policy. Forecasts that assume appropriate policy, by design, converge to our longer-run objectives over time. In this way, they provide clear, direct information regarding our policy intentions and the relationship to the accomplishment of our objectives. Of course, appropriate policy is exactly the assumption that we have in the SEP. So this brings me back to the SEP. I think the best approach going forward—and I have felt this way for some time—is that we should improve or enhance the SEP to better accomplish our communication goals. Specifically, publishing and focusing our communication on the median SEP projection is a low-cost and workable substitute for consensus forecasts.

I am comfortable publishing the median forecasts of the voters or the nondissenting voters. Either way, the median is a robust statistic. It should be relatively insensitive to the rotating membership of the Committee.

I thought the staff memo reporting various median SEP projections over this year was very useful in testing out how this would have worked. It shows that the median forecast from the voters or the nondissenting voters would have generated coherent forecasts consistent with the FOMC statements. The one case that is a driver of a lot of this discussion was the April meeting. And there, if you look at the range of SEP projections versus the FOMC statement, there was clearly tension. But looking at the memo that we received, if you took the median forecast from the nondissenting voters, there would be no tension with the FOMC statement. And even if you included all voters, I think the tension would have been relatively modest. I also think I wouldn't try to relive April too much. I think April was a time when we were learning, we were still in the early stages, or early growing pains, of having experience with policy rate projections. We were also in the early period of having such far-forward guidance in the statement. Presumably we have learned from that process, so I don't think we will repeat the difficulties we faced in April.

In terms of some of the detailed questions, I am okay with distributing internally the SEP matrix with attribution. I personally find it very useful to understand my colleagues' views. I don't think at this time we should be doing that externally.

In terms of the scatter plot issue, I actually have a technical question on that. For the scatter plot, as I understand it, we are asked what the unemployment rate will be at the end of the year. We are not asked what unemployment rate we would have at liftoff. So would you add that kind of question to get this scatter plot right? If we did, I think that would be fine.

In sum, because of the daunting challenges in implementing the consensus forecast and the very high burdens it places on staff, I think we should end the consensus forecast exercise at this time. I think our communication goals can be better achieved by focusing our efforts on enhancing the SEP by emphasizing the median forecast. Thank you.

CHAIRMAN BERNANKE. Thank you. President Evans.

MR. EVANS. Thank you, Mr. Chairman. I put together these comments looking out my second-floor view of the new Chicago Speaker's Corner, with all of the people out there complaining about everything. [Laughter]

At any rate, the consensus forecasting exercise certainly has turned out to be an eye opener. I didn't think it was going to be this hard. The staff memo does a very good job in describing the range of issues we have had to confront and the difficult decisions that we would have to make to produce such a consensus projection. As always, thanks for all of the hard work; it was really well done.

Rather than discuss all of the nettlesome details, I think it is useful to remember the first-order issue. In its current form, the SEP is a problematic tool for describing the forecast rationale underlying the Committee's policy decision. As President Williams alluded to, the

April press conference, I thought, was particularly challenging—certainly to watch, and probably to experience in person. Our goal, then, should be to find a better way to provide the Chairman, by the time of the press conference, with the information he needs to effectively communicate the role of the outlook in our policy decisions.

I don't think we are close to being at that point with the consensus forecast, and I am not really sure we can get there. Of course, if the Chairman really wants this, we could try harder. There are just too many issues to work out at the moment, from handling assumptions for a complete path for future policy to the conventions for endorsement. We might be able to come up with a satisfactory way to handle the issues and produce an informative product by the time the minutes come out. And we may want to pursue some experimentation with putting together a forecast conditioned on common policy assumptions consistent with the actions of the Committee at the meeting. But I don't see how we could ever do this in time for the postmeeting press conference. Certainly, we could not do so without severely compromising the FOMC meeting itself as a deliberative process.

I think, however, that we can make improvements to the SEP that would make it a much better tool. First, at the press conference, I think we should highlight the median forecast of those Committee members voting for the policy. True, this need not be as fully a coherent economic projection as the consensus forecast would be, but it has to be an improvement over 19 different viewpoints. The median of the supporting voters would go a long way to describing the collective judgment that underlay the policy decision. When we add in other members or participants who didn't agree with the policy decision, it is not helpful for explaining any nuances in the decision. We could go ahead and publish the median of the voters who were in favor of it, as well as the median of everyone. There are all kinds of cuts of the data that we could produce if we chose to do that.

It probably doesn't surprise you that I would be willing to publish the entire matrix of SEP submissions myself. I am fine with doing that with attribution. If we can't get there, I would at least identify the members voting for the policy decision, if that were possible. With the matrix, the public would be able to see the individual projections and judge the rationales for themselves. They could put together the scatter plots that they like—although the particular issue you were talking about, President Williams, would not be conveyed. At a minimum, I would distribute these internally with attribution and also include balance sheet assumptions whenever possible. Thank you.

CHAIRMAN BERNANKE. Thank you. President Rosengren.

MR. ROSENGREN. Thank you, Mr. Chairman. The staff memo is quite persuasive in describing the challenges with the consensus forecast at this time. Different weighting of the dual mandate, different views on the transmission mechanism of monetary policy, as well as the many operational challenges in reaching a consensus with such a large committee—with members with rotating votes—make a quick resolution of these problems unlikely.

It is important to focus on what the primary communication objective should be for this exercise. My own view is that the most important objective for communication is to make clear what outlook for inflation and unemployment justifies the Committee's policy decision as communicated through the statement. The second most important objective is to make clear how unexpected changes in the path of inflation and unemployment are likely to influence future policy actions, particularly given that we are setting policy, at least in part, by being more explicit about our future intentions.

At this time, I do not believe a consensus forecast is the best way to meet either of my primary communication objectives. I do believe that an enhanced SEP is the best way forward. Each participant should provide a forecast based on the median forecast of the path of the federal funds rate and the balance sheet path from the previous SEP, which I would do at every meeting. This would eliminate the problem of vastly different policy variables being used as optimal policy. At meetings where policy is changed, forecasts based on the previous SEP would presumably show outcomes that necessitated further action. I would prefer to make these submissions public with attribution. The public would then see the views of those who supported the statement and those who did not. This would avoid the problem of not distinguishing voters and nonvoters that occurred at the April meeting. The public could also associate forecasts with those who are likely to be voting members in future years. It also makes each participant accountable for his or her own forecasts, and the public could discount those forecasts that have large systematic errors or that have serious consistency problems. However, there is a legitimate concern that attribution may make participants less willing to compromise during the meeting. If disclosure with attribution does not have support, I would propose an enhanced SEP that distinguishes voters from nonvoters, based on the year they are voting. I would release all of the variables by participant, but with the participants not identified.

An enhanced SEP with full disclosure could begin with the first press conference next year. That would give us time to work out any remaining concerns with the approach we adopt. Thank you.

CHAIRMAN BERNANKE. Thank you. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. I think the main thing we have to do here is define what we are trying to do, and I will give you my objective. My objective is to provide the public with a baseline Fed view of the likely path of the U.S. economy. I would like to do that through a quarterly monetary policy report. I view this as standard central bank practice around the world. We should be able to do this as well. I do not buy the argument that the United States can't do it but everybody else can.

I have more modest objectives than what the subcommittee seems to have in mind. In particular, the core purpose, in my mind, is not to explain the rationale of the FOMC, but it is to get this baseline view out there, given assumptions about future policy that are in the market. So my main comment is that the process around this should not be an attempt to make policy decisions through an agreement on forecasts outside of actual FOMC meetings, and I agree with President Evans on this. This type of process is extremely cumbersome and, I think, should be abandoned. It really takes away, maybe, from the integrity of the meeting.

Here is my suggested approach: The forecast should be labeled as a staff forecast. It should essentially be a version of the information that is already used in the Tealbook. That is number one.

Number two, the policy assumption used should be a market-based one, as in the Bank of England case. I was unconvinced by the memo discussion on this issue. I think a market-based assumption would work well. It could be that the market-based assumption is going to be different from what the Committee has in mind, but then we have to ask ourselves, well, why is this? Have we not communicated effectively? Do we not think that the outcomes that everyone else says are going to occur are satisfactory and we should adjust our policy appropriately? So I think if you are going to be a long way out of line with a market-based assumption, the Committee has some introspection to do on that. I'll stop on that.

Finally, the third thing is that the timing of the quarterly monetary policy report should be divorced somewhat from the FOMC meeting itself, so that we are not in this position of trying to scramble around to put the statement out there. I just don't see it as being part of this process here, the meeting itself and any press conference, if there is a press conference associated with that particular meeting. So I would see this as a little bit of a different schedule. One way to do that would be, during the middle of an intermeeting period, you could have an event where you give an updated Fed forecast, given the recent policy decision as it's understood in markets at that point in time.

I don't oppose the changes to the SEP, but I would like to remind the Committee that much of the impetus for this was that there was dissatisfaction with the SEP. So I don't really see this as helpful, to go back to the SEP and then have the same list of complaints about it that we have had before.

Identifying members is fine with me. I am happy to discuss my forecast or my outlook on the economy and all kinds of issues at length. But I think the main issue with the publication of names and voters, and so on, is that everyone really wants to know what the Chairman's view is. And once they have the Chairman's view, they are not going to care about anyone else's view, which is fine. But, you know, are we really willing to go that far?

So I think we would be better off with the approach that I am suggesting, which is to go to the staff forecast, put in market-based policy assumptions, get it a little bit offline with the actual meetings—either the same time as the minutes or a little bit after the minutes or somewhere else in the intermeeting period—and have it be quarterly. I do think it would provide a lot of information for financial market participants and the private sector in general, because they want to understand how the pieces fit together, at least from the staff's perspective, understanding that you have lots of policymakers. The policymakers have all kinds of different views, and that is good and helpful, but we don't have to get into all of that just to give this baseline view of how things are working and what we expect to see in the future. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. So, in my view, the point of a Committee forecast is to augment the statement, to illustrate why the Committee is making the decision it is making through its outlook on key variables such as unemployment and inflation. It enhances accountability by confronting the Committee with the difficult task of rationalizing what its decisions are in terms of the variables it is charged to influence according to the dual mandate. So given the perspective that the Committee forecast is supposed to augment the statement, I see it as entirely appropriate to be focusing on the set of people who voted for the statement when we are thinking about the forecast. Now, I had always hoped and thought that this should be done as a collective process. The staff memo was excellent. I wouldn't call it uplifting [laughter], but it was excellent and convincing that this can't be done.

After thinking about it, I realized that the people who had voted for the statement presumably had voted for it because they viewed it as appropriate policy, and they had formulated their projections under what they thought of as appropriate policy. So there should be a confluence between what we want to achieve, which is some collective judgment of what appropriate policy would be, and then a collective forecast based on that. So, to summarize, it strikes me as eminently reasonable to release the median projections of those who voted for the statement with the statement, and have the Chairman use that as backdrop for his press conference.

A number of the other suggestions have to do with enhancing our description of the heterogeneity of views held at the meeting. I think there are a lot of arguments for sharing those with the public. I am not sure I am willing at this moment in time to go along with all of them. I would like to think more about that. But my basic principle is this: Anything that has to do with the heterogeneity of views that are being described in the meeting should be in the minutes. The Chairman shouldn't have to stand up there and take responsibility for all of the heterogeneity of viewpoints being expressed in the meeting; that doesn't make any sense. He is there to explain the Committee decision and the statement, and then the projection of the people who voted for the statement should help him with that.

What should be included in the minutes in terms of the heterogeneity of views? I maintain an open mind about that. I think we can go on thinking about that. Certainly the SEP, in its current form, would be one thing you would put in the minutes. That would be my starting point: Take the SEP in its current form, and put it in the minutes. How we want to slice and dice it beyond that, I am open to lots of other suggestions.

One thing I found very useful in the process was, I really would like to have people's forecasts conditional on their version of optimal policy and based on their forecast of what the Committee would do. I think it was almost accidental, but I found it a very revealing step when we saw not just what people's forecasts for economic conditions would be if they were in charge, but also based on their forecasts of what the Committee would do. And then sharing that internally with attribution, I think, would really enhance our discussions. I think it would give us a much clearer idea of where we are all coming from. So those are my comments, Mr. Chairman. Thank you.

CHAIRMAN BERNANKE. Thank you. President Pianalto.

MS. PIANALTO. Thank you, Mr. Chairman. I also want to thank the staff for the excellent work that they did on this issue.

The consensus forecast experiments have highlighted the considerable diversity of views on the economy and policy held by Committee participants. I firmly believe that historically this diversity has been a source of strength to the Committee. However, the extent of our diversity of views poses a considerable hurdle to the development of a consensus forecast. To have a consensus forecast, as others have pointed out, we need to have more agreement on the model of the economy, including a common policy reaction function. Based in part on the two experiments, I am inclined to think that such agreement is out of reach.

Even if agreement could be within reach, the two experiments have led me to believe that the marginal costs of a consensus forecast outweigh the benefits. One significant cost, as has been pointed out, is the time required of System staff and Committee participants to produce individual forecasts under different policy paths and to provide other input into the development of the consensus. As to the benefits, I certainly recognize that there would be some in terms of our ability to communicate a collective assessment of the outlook and policy path. But given the tools that we have today with the SEP, the Chairman's press conference, and speeches by Committee participants, I think the marginal benefits of a consensus forecast are just modest.

Of the tools that I just mentioned, I view the SEP as tremendously useful, in part because it does an effective job of capturing the diversity of views. And in that sense, it supports the diversity that has long served this Committee well. I also think the SEP does a good job of communicating the average view of the Committee, which usually isn't going to be far removed from what the consensus forecast would look like if it were feasible. Still, we have learned this year that there may be times when an FOMC meeting produces a policy decision that differs some from the average view reflected in the SEP. As President Williams pointed out, that happened at the April meeting. In those cases, I think the Chairman's press conference provides a clear opportunity to explain the differences and the Committee's collective thinking on the outlook and policy.

As useful as the SEP is in its current form, there may be some opportunities to improve upon it. And I will answer just a couple of the questions pertaining to possible enhancements to the SEP. It seems as though publishing the median projections of just the voting supporters would require either a pre-vote tally of supporters or postponing the publication of the projections. So for timeliness reasons, I would prefer to publish the median of all voters, which would be very similar to the median of voters supporting the statement, as the table circulated by David Reifschneider showed.

Based on our experiments with scatter plots some time ago, I think that the plots are likely to be hard to explain to the public, so I don't think scatter plots would improve our communications all that much. So I would prefer not to include them in the SEP.

Given our interest in better communicating the Committee's collective judgment, I think that publishing individual details could be counterproductive. Providing individual detail would probably increase the public's attention on individual forecasts and reduce the attention on the central tendency.

And, finally, I think that publishing more information on the balance sheet action is the biggest opportunity for improving our communications but also, perhaps, the most difficult. It may be worth exploring the addition to the SEP of individual projections, either quantitative or qualitative, relating to the duration and composition of asset purchases.

So I am open to considering some enhancements to the SEP. But to avoid any unintended consequences, I do think we need to have plenty of practice with any enhancements we decide to use before we roll them out to the public. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you very much. President George.

MS. GEORGE. Thank you, Mr. Chairman. I tend to agree with the assessment of the hurdles associated with the consensus forecast and support moving forward with an enhanced SEP. In order to better illustrate the Committee's views, I would support identifying voters and nonvoters in the charts.

I would not publish the scatter plot of the unemployment rate and inflation rate expected to prevail at liftoff because I think it would confuse the public and, therefore, not enhance our communication.

And finally, I would not publish the full matrix of projections with attribution because I think it could discount the value associated with the independent views of the Governors and the Reserve Bank presidents. Thank you.

CHAIRMAN BERNANKE. Thank you. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. I, too, want to thank the staff for all their work in helping the subcommittee with its efforts on the consensus forecast. It has been very helpful and very insightful in helping us work through this. I've been supportive of the initiative to explore development of an FOMC consensus forecast, and I found the two experiments quite instructive. As many people have noted, they've uncovered some thorny issues that would need to be resolved in going forward with such an initiative. And, quite frankly, like many around the table, I've become skeptical whether we will be able to achieve a workable solution.

I want to touch on a few of the questions. I'll try not to repeat too much of what's already been said. I generally agree with many of Governor Yellen's expressions of concern about what these problems really involve, and I also want to tie my comments back to a point that President Bullard made about asking what the purpose of this exercise is and how it relates to the SEP.

So rather than repeat those things, let me suggest that one of the challenges of agreeing on a conditioning path that I want to add to the discussion—I think Governor Yellen mentioned this—is that in order to condition on a path of a policy that we're going to take in a meeting and, therefore, provide the right set of forecasts consistent with that almost means that we have to have the meeting before the meeting. I think that is a very difficult and undesirable attribute of this, and I think it could prove quite difficult to implement, as many people have talked about. That would suggest we would have to have lots of conditioning paths based on, let's say, alternatives A, B, and C, but then if we decided to do something in between, we once again would find ourselves with a problem. So I think, actually, that it is most likely a mistake to think that we can effectively achieve a mechanism that's going to rationalize our policy decision at every meeting. We'd end up having to do it at every meeting, which we don't do with the SEP, and it's going to be very difficult to implement. I'm a little bit concerned about heading down that road.

So I'm not inclined to want to produce a consensus forecast at each FOMC meeting. I think it's going to encourage us to overreact to current data, have a short-term focus, and lots of other things. Even going forward with the SEP, we would also have to think about how we deal with balance sheet issues and other things that we're using as policy tools.

I remain a fan of the SEP and have been for some time, and I continue to think it has served us quite well. I'd like to remind everybody that the concerns that arose in April really arose in part because of the conflict with the calendar-date guidance. And I think that the problem, from my view, has not been with the SEP, which was just revealing participants' views; but it is that we were trying to reconcile it with calendar-date guidance. Now, given the talk of thresholds or reaction functions or moving away from calendar-date guidance, I think this tension is going to be substantially reduced if we get rid of the calendar date and move to other mechanisms for describing our forward guidance. I think we risk undermining the value of the SEP if we try to tweak it to address what I consider to be some short-term issues caused by that forward guidance, which, again, I hope will eventually go away. I would prefer that we handle any potential conflict by improving our communications about the role that the SEP plays and how it fits into the Committee's deliberation. And, indeed, the Chairman did a pretty good job of that in his press conference when he talked about this, and I think continuing that approach is better.

The other thing is that, as I alluded to earlier, we only do the SEP quarterly, so getting into a consensus forecast that would rationalize every meeting would force us to do this every meeting. I think that could be terribly expensive, not just on staff but on this Committee as well, on occasion.

So I'm in favor of trying to enhance the SEP and use it to the best of our ability to make it useful in our communications. However, I do oppose any action to distinguish SEP submissions by voters versus nonvoters. I think such distinctions undermine a long-standing tenet and the actual practice of this Committee that all participants play a role in the deliberations and formulation of policy at every meeting. Making such a distinction could potentially undermine the collaboration among participants that's been the hallmark of effective monetary policy for many years. We would tend to emphasize distinctions that could add to market volatility, particularly during the turnover of voters at the end of the year. At the December meeting, do we talk about voters being the people that are voting next year or the current year? So I don't really think designating voters versus nonvoters in the SEP does much to resolve potential differences. As we have seen, the median forecast difference between voters and nonvoters is really pretty trivial, so I don't see any reason to make that distinction. Doing it that way also fails to make it known that people who are voters one year won't be voters next year or some year later, or people who are not voting this year will be voting in the future. I think it's important for the public to understand everybody's views because they will all play a role in the process going forward. Again, the staff memo shows that the medians are not really that different. So I see no reason to make this distinction; it doesn't serve very much purpose.

I have no problem with releasing the full matrix. I think that would be a very good idea. It allows people to line up projections with appropriate policy, so you get a coherent view of the range of views and where they're coming from. So I have no problem with publishing that and making it public. I'm okay with doing it with attribution, but I actually see some benefit to not giving attribution on that. I think, again, everybody is going to want to know what the Chairman says, and nothing else may matter, and I think it might put undue pressure on him. Or if you do it with attribution, another option would be to do it with everybody except the Chairman. That would be another possibility if you wanted to use attribution. But I think it would bring a lot of pressure and focus on the Chairman if we tried to do it any other way. So I'm inclined to want to publish the full matrix without names at this point.

I would also be supportive of publishing scatter plots of the combinations of unemployment and inflation expected to prevail at the time of liftoff. I think those are actually quite informative. Actually, I think they're more informative than trying to come up with thresholds, if you want to know the truth, because they are actually a pretty good substitute because they tell you where everybody thinks liftoff is going to occur. You get the range of views; you can get a modal value for the unemployment and inflation rates; and, more importantly, you can see how that may change through time as the economy evolves. So I think there's a very useful way of looking at how the Committee view is evolving about when liftoff will be and what the range of acceptable values is for getting liftoff. So I think that actually could be a very useful tool as a substitute for the thresholds, if you will, and we could use it to our advantage.

I think there are some issues that we need to think about in terms of the balance sheet. Obviously, a lot of our policy today is about how the balance sheet is evolving. I think it would be useful in the SEP for us to think harder about how we might incorporate information about participants' views of what the balance sheet is doing and how it's evolving. I don't know that I have a good answer about how to do that right now, but I think it's something that we ought to give some thought to and perhaps go through some experiments with.

So I think at this point, we should focus our attention on enhancing the SEP and set aside the consensus forecast for the time being. We should keep the SEP at a quarterly level and do some experiments with enhancing it, whether they be about rolling out the entire matrix or about other ways we could produce scatter plots that might be informative and communicative about what the Committee is thinking. I think that may be the best strategy for us at this point.

I remain supportive of a quarterly monetary policy report, much like Jim Bullard, although I see the policy report somewhat differently. I actually think that the SEP, particularly enriched as we're talking about, can provide the basis of a quarterly report that highlights the outlook of the Committee and the range of views, and would provide us with an opportunity to talk more about the economy, give richer descriptions, and talk more broadly about the monetary policy strategies that we're using, as a way of enhancing our communication to the public. And in that sense, the monetary policy report doesn't hinge on a consensus forecast at every meeting that justifies a particular action. So I see it as a different exercise with a little different purpose, but I think it could prove very useful and an important communication tool when combined and integrated with the SEP as we've been developing it. So that's where I am. Thank you very much.

CHAIRMAN BERNANKE. Thank you. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. I'll join the call for abandoning ship. I think it's not worth really devoting any more time and effort to the consensus forecast initiative. The staff has done a good job of spelling out why it requires us to agree on far more than is necessary to obtain a workable consensus on what we put in the policy statement.

In particular, I don't think we found a coherent way to aggregate our diverse views, and in particular, our diverse views about policy. We're asked for projections conditioned on a given policy path, but that request can be interpreted in several different ways. One way I don't think it's meant is a reaction function that's literally fixed and invariant with respect to shocks—that doesn't make any sense. It's going to lead to disaster under a lot of different scenarios, and averaging over those scenarios is going to lead to a really poor forecast.

So does it mean taking my reaction function and my model economy and putting shocks into the economy that will yield that policy path? Are we supposed to assume that the economy turns out to make us want to do that? I don't think people mean that either. I mean, that's the way, maybe, Professor Sims would do it, but that doesn't make sense. I think what people have in mind is substituting a different reaction function, but in a lot of cases that's going to mean that participants' forecasts about the economy are going to be driven away from each other. It might unify the presentation of the views about policy, but then it spreads apart views about how the economy behaves. And it raises other questions: How are expectations supposed to be handled? Am I supposed to assume this is sort of perfect foresight with a one-time adoption of a new policy rule, or that this policy rule is learned by the public over time? And in a situation where some of us are worried about inflation expectations and how they behave, that's a germane thing for some forecasts.

And why single out the policy reaction function? I mean, on the other side of the coin, why not have us assume instead that the structure of the economy is such that we agree on the appropriate policy path? That's an equally plausible way to get us to the same policy. So it just doesn't seem to me to be logical to single out policy, condition on that, and not condition on anything else. It was never clear to me. So I don't think we've figured out a way to aggregate views other than just sort of averaging appropriate policy, our view of the forecast, and just average or take the median of what we do. Anyway, that's just my two cents about the conditioning part of the consensus forecast.

I think it would make sense to continue relying on the SEP. I think that conveys our views about the economic outlook and policy. A number of modifications have been proposed; I like a bunch of them. I think circulating our submissions with attribution would be a great step within the Committee. I don't see why we need to be coy with each other. I think it would improve incentives and perhaps even increase effort devoted to the forecast.

On the scatter plots, matrices of individual forecasts, I don't have strong objections to publishing those, but I don't see a huge value in it either. I think it's sort of, literally, a second-order consideration. I'm not aware of a huge public clamoring for the information. You know, maybe one or two people have asked for it, but no matter how much we release, there's somebody who's going to be curious about something else and will want to ask for more, so there's an inevitable slippery slope there. You referred to that in your remarks, Governor Yellen.

I think some of the proposed modifications would be bad ideas. I don't think it makes any sense to distinguish between voters and nonvoters or between voters supporting the statement and others. I could understand why that would be very useful and a logical thing to do if voting membership didn't rotate, but it does. And because it does, it raises really problematic questions. If we go down the road of calling attention to the difference between voters and nonvoters, does the current forward-guidance language represent any sort of implied commitment that constrains future voters? Sort of a fundamental question here. If we emphasize the difference between voters and nonvoters, we'll be encouraging people to think that the policy action in the future and the policy guidance itself could change when the voting roster changes. If that's true, what sense does it make to give forward guidance? I don't understand that. In contrast, if you view future voters as constrained by current policy, why wouldn't you want to emphasize the collective consensus view? Why wouldn't you want to downplay the difference between voters and nonvoters? I think that drawing attention to these differences is going to undermine the value of forward commitment because if there's evidence of disagreement, it's going to imply it could shift around at year-end as voting membership changes. So it seems to me shortsighted and potentially counterproductive.

I don't see this as having been a huge problem. People have been citing the April statement, and as President Plosser pointed out, it's mainly an issue for the discrepancy in the forecast of the funds rate paths. As I said yesterday, the motivation for the consensus forecast initiative was this perceived dissonance between the funds rate path in the SEP and the guidance in the language. At some level, I don't think there's been that much dissonance because if you carefully count the dots in April, it's clear there were enough possible voters to support that statement's calendar date. I think that general notion is consistent with the evidence we saw yesterday from Mr. Potter that market participants have generally aligned with the Committee's view about future policy.

But if you do that careful dot count, at times—and April is a good example—it's revealed that the views of the nonvoters sometimes have been skewed in the direction of an earlier liftoff. There's no doubt that skew has been there. Now, we could have adopted a different calendar date at that meeting, one that resulted in fewer perceived skews of the nonvoters, but we didn't—and I'm fine with that. It's the prerogative of the Chairman and the voting members of the Committee to choose a workable consensus from a range of possibilities.

But the range of participants' views is an objective reality, and at the time we chose that in April, it was independent of the choice of the voters. Publishing the funds rate projection in the SEP represented a move in the direction of more transparency about those views, and I think it would be a step backward to damp or limit information about the views by replacing the SEP with some sort of consensus forecast. More broadly, if dissonance is a problem between the voters and the nonvoters, I think the burden of adjustment, if any adjustment is needed, should fall to the statement and the statement language, not to the SEP. So those are my views. I favor moving ahead with the SEP. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Just for clarity, I don't think anybody is proposing eliminating the full range of the SEP. It's just a question of whether to add a subset. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. As Governor Yellen was going through her commentary earlier, I found myself in substantial agreement with almost everything she said, then others also have supported much of that, and there have been other thoughts. I'm just going to make a few points to try to add a little bit to the commentary this morning.

In an earlier discussion some months ago, I made the sort of abstract point that the institutional setup of the FOMC makes a consensus decision more achievable than a consensus rationale for a decision. I think this exercise makes that more clear as a practical matter, and I think it's unavoidable that our communication is influenced by that reality. So we're not the Bank of England, and we're not the Riksbank either.

Whatever decision we make, I think it's important to be clear about purposes; several have pointed that out. Particularly, what I consider to be a primary purpose of this communication tool is to equip the Chairman to explain in his press conference why a policy decision was made and what it's expected to accomplish.

As I weighed the arguments in the staff memo, the balance of pros and cons seemed to me to lean in favor of abandoning the consensus forecast and settling for an improved SEP. I would support the suggestions made by the staff in the memo, for the most part. The median of voters—I like the idea of the median of supporters, if that could be compiled quickly between the time of the end of the meeting and the time of the press conference.

I support publishing the full matrix of submission information. I'm a bit uncomfortable with full attribution to the public, name by name. I made this argument, again, some months ago, and it's important. I say this word carefully. I don't want to encourage Kremlinology—that's different from criminology [laughter]—Kremlinology that just feeds the beast of articles about who said what exactly and tries to create dissension within the Committee that may, in fact, not exist or at least not be that material.

So let me just take a second and say if we were to go forward with another trial of the consensus forecast—and I'm not totally ready to throw in the towel—I think it's obvious a key requirement is a common policy assumption going into the forecast exercise. As I think about it, there are three options: The first is the policy status quo ante, but that doesn't help in the press conference because that basically says what the policy as it existed before the meeting would accomplish in terms of a forecast, and that doesn't help if we make a decision in the meeting.

The second would be a summary of market expectations, probably derived from the dealer survey. I can't get comfortable with having, essentially, the external world dictate our base assumption for a forecast. It just seems to me to be too dependent on outside opinion, which in some cases diverges from opinion within the Committee.

Then the third option I see is that the Chairman defines an assumption, perhaps broad enough to be inclusive of what seems to be the consensus going into the meeting about the path of policy. I think that is sort of similar in spirit to the approach in one trial where the Chairman was going to summarize the forecast and come back to us with a summary statement that then we were going to decide whether we bought into or didn't buy into. So if the Chairman were comfortable doing this, I think he might just provide an adequate enough assumption of the policy. None of these is ideal. To be ready for a press conference, a forecast based on the actual decision is not really feasible. So it does appear to be extremely difficult.

If we adopt a consensus forecast approach, I do favor doing the exercise for each meeting. I don't think we can render half the meetings more equal than the other half. I think this would require a press conference after each meeting, and knowing the Chairman's view on this [laughter], that may be the final nail in the coffin. So those are my comments. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Mr. Chairman. I think the staff memo did a great job outlining some of the real difficulties with the consensus forecast. I think there is a consensus about the consensus forecast today, obviously. So I am with others in that I think that it makes sense to spend our time now turning back to the SEP process, to try to fix the shortcomings of the SEP. As I have noted in the past, the SEP has numerous difficulties, so I just want to restate those, because I think at the end of the day, in terms of what we want to do, we want to fix the SEP so that it works correctly.

The first difficulty is that the central tendencies are not consistent across the different variables. The second is that there is no way to distinguish voters and participants, and those differences are important to people in the markets. And, third, the interest rate projections are not tied back explicitly to the real economic variables in a consistent manner. So my test for the SEP is something that actually fixes those three things.

In terms of the questions posed by the staff memo, I have one caveat about the median projection of voters supporting the statement. I'm not really opposed to it, but I don't really want a median forecast where it is the medians of the individual variables. I want a median forecast that actually has a consistent set of variables. So I would encourage the staff to see how one would go about doing that, because I think if we just have a median forecast that is just the medians of the individual variables, we haven't solved the issue of actually having a consistent set of forecasts. And that seems to be a problem that I just wanted to highlight.

I do think that publishing a median forecast, though, is still second best to putting out a lot of additional information. I would publish all of the individual forecasts, and I would identify the forecasts as voters and nonvoters. But I also would be happy to identify what year the nonvoters are going to become voters, so people could actually anticipate when they actually move into the voting—because that does matter, especially as we get late in the year and people start to anticipate what is going to happen as the year flips over. I don't feel strongly about the names versus no names issue, in terms of public disclosure. I guess I would favor publishing the names in the interest of transparency, to avoid the Kremlinology issue. But I would be happy to defer to others on that. If we do publish the names, though, I think you want to publish everybody but the Chairman, because I think that you want to give the Chairman a little bit more flexibility. Obviously, if we identify voters and nonvoters, and the nonvoters by the year they become voters, it is going to be pretty easy to identify most of the forecasts. So if you decide to go that far, you might as well just disclose all of the forecasts.

I think that regardless of where we come out in terms of external disclosure, it is crazy not to circulate the forecasts and the names internally. I don't see what the point of that is, so I think that we should have all of that stuff circulated. I think the consensus forecast exercise actually did improve the exchange of information within the Committee, and I think that is the one lesson of the exercise that we should actually try to build on. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Duke.

MS. DUKE. Thank you, Mr. Chairman. I have not been a fan of the consensus forecast idea, and I didn't even like the idea of rushing to publish the fed funds rate projections. So these efforts just don't feel to me like they are designed so much to provide more transparency about the range of views in the room but, rather, as an attempt to show more agreement than I believe actually exists.

And as one who has occasionally struggled to support the decisions about current policy, I feel even more conflicted about signing up for a more comprehensive level of agreement about the decisions that are going to be made over a number of years than I found necessary to allow me to support the policy at any given meeting. The reason why it is so hard to formulate a consensus forecast might actually be because there is not that much consensus. So I feel like trying to shoehorn a large majority into agreement on several dimensions could actually increase the level of dissent and be counterproductive to the strength of the policy statements.

I know the communications in the current environment have been awkward at times, but I think it is because decisionmaking in this environment is really hard. And there are a lot of moving parts, and we are in uncharted territory, and knowing what we are going to do in three or four years is especially difficult. So trying to come up with more detailed communication devices doesn't necessarily reduce that complexity. So to the extent that the consensus forecast implies any commitment, it seems to me more likely that such efforts will yield better results when the path of the fed funds rate is actually the only policy variable available.

As Governor Yellen noted earlier, there is a lot of work to do for the next meeting, primarily by the staff. There is always a lot of work for the next meeting to be done primarily by the staff. And this effort seems an unproductive use, or less productive use, of critical staff resources that are also needed to understand the costs and the benefits of the policy actions that we are actually taking. So I strongly believe that this is the wrong priority for these valuable resources.

By now, my answers to the first set of questions are probably obvious. I also don't see the value in separating the submissions of individuals, or voters, or voters who supported the action, or any other subgroup. If you are talking about projections of policy for three years, everyone submitting projections will be voting at some point in the projection period. And, once again, separating the views of those supporting the action from those who did not could have one of two outcomes—either exposing varying degrees of conviction in support or pushing some who are on the edge of support into dissenting positions. I fail to see how either of these actions strengthens our policy statements. I also think it is a real possibility that this solution could create a new source of awkwardness for the Chairman to explain at a press conference.

If our objective is to be truly transparent, and we do decide to go down this road, the policy variables that are in the SEP should include a balance sheet variable as well as a fed funds variable. If we had adopted this approach prior to our last meeting, the public would have been able to see the diversity of expectations about continuing LSAPs among the voters, and the market reaction would likely have been quite different.

So I guess I am in the camp of "be careful what you wish for," and let's be very careful that we know the consequences of what we plan to do before we go public with it. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. In the spirit of wanting to give the chair of a subcommittee with a really difficult assignment at least some faction of support, I am going to lead by saying I would just endorse everything Janet said in terms of a starting place for the rest of the work of her subcommittee, meaning put the consensus in cold storage, and then follow the inclination she had on each of these six items.

Let me just say a couple of things to elaborate a few points. One, as I think has become clear—and Dennis came close to saying this—there are two basic ways you can get to collective judgments on things in any group. One is through a consensus-type approach, and the other is through an aggregation-of-individual-positions approach. Almost no decisionmaking process is purely in one realm or in the other; everything is kind of a hybrid. But I think it is pretty clear that this Committee more resembles a congressional committee than it does a committee producing a proposal for curricular reform, which is to say that it begins with a lot of views that are basically at odds with one another, and it ends up there most of the time. [Laughter] We just need to take account of the idiosyncrasies of this group. One, that it's big; another, that it is geographically dispersed, as I think Janet said, so there is no real ongoing opportunity for interaction; and third, that it's pretty polarized in ideological terms right now. It's not unpleasant; it is just polarized.

So I think we do need to lean more toward the aggregation of views as a way to get collective judgments, and that is really what we do with the monetary policy votes. At some point, the Chairman defines something on which we will vote yea or nay. The difficulty with the consensus statement is it required this sense of manifold inputs into a process that could be shaped in a lot of different ways with a lot of different outputs, and that has just proved unmanageable.

On the SEP, if you start from my working proposition that we are closer to the congressional committee end of the spectrum, without being anywhere near all the way there, I think, in general, just having the individual views aggregated—and having everybody's views aggregated, because as people have said, some will be voters tomorrow and some next year and some the year after that—is in general the best way to go but with one exception. That is A—the likely future path of policy—which is why I support Janet on A.

It does seem to me that we have to get some reconciliation of the actual decision taken in a particular meeting by those who happen to have a vote at that particular meeting with the projection of the policy path and economic developments as reflected in the SEP. The April anomaly may well remain an anomaly rather than become a recurring pattern, and maybe Charlie Plosser is right that it was a growing pain. But it seems to me it is important to ensure that there will be a reconciliation of the collective judgment as manifested in the policy statement with the collective judgment on the forecasts of the relevant variables based on that policy judgment. So the bottom line is, while I endorse everything Janet said, I feel most strongly about A. Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Raskin.

MS. RASKIN. Thank you. The two experiments regarding the creation of a possible consensus forecast provided us, I think, with really rich results. This was because these experiments were conducted in the context of several economic headwinds that different participants weighted in different ways, and these experiments were also conducted in the context of a range of different policy responses and different views as to what constitutes monetary policy. So the laboratory conditions were a close approximation to the conditions that exist here in real-life policy decisionmaking. That said, I want to also commend the staff, in particular, for conducting the experiments with true laboratory-like conditions, in a way that I would say did not interfere with the very difficult policymaking decisions that this Committee was undertaking simultaneously.

I find the ideas set out in this go-round very thoughtful and very informative—so much so, really, that anybody here would be an excellent addition to the subcommittee on communications [laughter], and I would heartily endorse any of you as a likely successor to me.

What we find after conducting these experiments is that the hard issues involved in framing a consensus forecast have been brought to the foreground. Even if we suitably anchor, for experimental purposes, a set of policy assumptions upon which we can all build a forecast—which is what we did in the second experiment—those assumptions become of limited value in terms of the likely future paths of the fed funds rate and the balance sheet. And so we're back to a place where everyone then has a different view of these likely further paths, both for the fed funds rate and the balance sheet, and hence different views of what constitutes appropriate monetary policy. We also saw the almost humorous challenges involved in asking participants whether they broadly endorsed the forecast, sometimes subject to specific qualifications and sometimes not.

So these results and challenges leave us at a crossroads. We can try to create a consensus forecast a different way, or we can try to make the SEP better. The consensus forecast, as many of you have said, really presents a logistical challenge. Policy needs to be imbedded in the forecast, but the policy isn't decided upon until the meeting. We want the public to see the forecast with the policy choices reflected in it, but such a forecast isn't possible until after the Committee has voted and the staff has carefully had the chance to analyze its effects on the forecast. Alternatively, we could construct a consensus forecast going into each meeting unvarnished by the policy decisions to come at that meeting, but if indeed policy decisions are made at the meeting, the going-in forecast will not contain the effects of these policy decisions.

We might not have a problem with a consensus forecast that contains the last meeting's policy decision, but there would have to be another communication step inserted. In other words, the public would have to understand under that scenario that the consensus forecast is the forecast that the Committee generally agreed was the forecast it was presented with as it convened its FOMC meeting. The public would have to understand that this consensus forecast imbeds monetary policy decisions that have been made thus far, before any that have been made at the meeting. The public would then have to understand that the Committee would use this consensus forecast as the forecast to consider when it decides appropriate monetary policy.

But with this conception of a consensus forecast, the Chairman would not have, by the time of his press conference, a forecast that imbeds the most recent decision into the forecast. He'd have to indicate that this would come later. So if we don't like having to explain all of this, we're left trying to enhance the SEP, and there are probably hundreds of ways that that could be done. To narrow them down, it makes sense, I think, as several of you have said, to reiterate our purposes.

For example, if it is our purpose to communicate a consensus, we could think about retrofitting the SEP as a consensus document. From this perspective of creating a consensus forecast proxy via the SEP, the idea of publishing the median projection of nondissenting voters may provide a useful communication tool. It has the virtue of being relatively costless and not being a jarring addition to the disclosures already made to the public. The communication enhancement, though, would only be a proxy. It might be very far away from what a perfectly constructed consensus forecast might look like. It might imbed a view of appropriate monetary policy—fed funds path and a balance sheet path—that are not at all representative of the whole

Committee. But in highlighting the median, the middle person on each variable, it might look like a centrist view.

I'll say a couple of things about some of the other possible SEP enhancements. First, as suggested by President Plosser, the scatter plot might convey useful information to the public. It is not as helpful, I think, as setting thresholds in the FOMC statement, but maybe it is a baby step that would begin to accustom the public to the use of thresholds.

Second, I'm not that enthusiastic that we convey meaningful information by distinguishing members by name. The use of names, even when used internally only, diminishes, in my mind, the robustness of the Committee as a whole by potentially chilling individual contributions and the addition of different perspectives. Injecting a notion of identities could introduce an element of egotism that should play no role in the collective decisionmaking body that is the FOMC.

Third, as I think the scatter plot is a precursor to communication about thresholds, I think additional information related to balance sheet actions may be a precursor to such communication within the statement itself—that, too, might have value.

Finally, I've always been reluctant to disclose for the mere sake of quantity and don't think that any of this substitutes for quality. I also don't like an incremental disclosure pattern and prefer to explain to the public the reasons for any new disclosures in terms of what the disclosures are, in fact, intended to reveal. Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Stein.

MR. STEIN. Thank you, Mr. Chairman. I agree that it makes sense to table the consensus forecast project for now. The limitations have been pretty well explained, both in the memo and by others who have spoken before me. So I won't pile on here.

In terms of modifying the SEP, I'm agreeable with many of the things that have been proposed. In particular, I think it's a good idea to publish the median projection of the voters supporting the statement. Publishing the scatter plot seems also like a good thing to do. I'm perfectly open to the idea of doing the matrix, preferably anonymized, and also I think it's probably a good idea to circulate our stuff internally with people's names. That's pretty much it. Thank you.

CHAIRMAN BERNANKE. Thank you very much. Governor Powell.

MR. POWELL. Thank you, Mr. Chairman. I also agree that the consensus forecast is not doable now, although I would say that I think there may be something still in the idea of a quarterly monetary policy report, either with or without a consensus forecast. I think it's worth holding that thought aside from this for now.

As far as the SEP is concerned, I'm comfortable with most of the ideas that have been put forward. I would publish the median projection of voters. For that matter, all of the medians are essentially empirically identical, and I'm comfortable with publishing any of them. I'd publish the scatter plot, and I would identify voters on it, but not by name.

I would not try to publish the balance sheet projections, just for the reasons that I don't know what you do with an open-ended program and I also think you're going to wind up being dragged into a policy discussion over that again, which has been the thing that brought down the consensus forecast.

I would go ahead and publish the full matrix. I would not do it with names. I just think the issue with names is that it has the potential to change outcomes to bring forward human traits, like risk aversion and reluctance to admit error, that I see others experiencing from time to time. And finally, I would be very happy to circulate—in fact, I thought we already did this—the projections internally under our own names. I can't think of a good reason not to do that.

And let me end with a thought that maybe we could have an inertial component to our SEP publication function and maybe put a toe in the water by publishing the medians first and then move into the scatter plot and/or the matrix over time. Just a thought.

CHAIRMAN BERNANKE. Okay. Thank you very much. This was actually a very informative go-round. It is important to remind ourselves of the goal, which is both to show the diversity of views and to provide a coherent outlook that justifies the Committee's decisions. So I think both of those things are important.

There was general consensus that we should abandon for now, perhaps not permanently, the consensus forecast exercise and focus on improvements in the SEP. Under the heading of the SEP, there were a number of things that got specific attention, and it would be easy enough to go around and figure out how many supported each. The median voter idea, the scatter plots, the matrix, and possibly balance sheet information were ones that got mentioned considerably.

President Bullard was one of the few who wanted to continue with the consensus forecast, in which he was not joined by many people, but he also mentioned the QMPR, the quarterly monetary policy report, and President Plosser and Governor Powell mentioned that point as well. I think we should consider this a less-urgent issue at this point, but I myself also think that converting the existing congressional semiannual report and including information from Tealbook, Book A, could provide a very useful document at some point in the future, including SEP information or however we wanted to do that. Again, this is not something we want to do immediately because of the press of the priorities that we are facing, but perhaps this is something we can keep in the back of our minds as we go forward.

What I'd like to do, if Janet is willing, is to ask her and her subcommittee, with the help of staff, to make some tentative recommendations back to the full Committee. In December we have a quarterly SEP, and we can simply try them out; we can just look and see. If you propose one particular statistic, we can look at what that is, and we can have a brief discussion, at least a presentation of what those numbers look like in the context of the December SEP. And then based on that, perhaps we can decide to go live in the subsequent meeting. President Kocherlakota.

MR. KOCHERLAKOTA. Yes, thank you, Mr. Chairman. I would just add onto what you said that I do think it's useful for us to think about, as I indicated in my earlier remarks, what we're releasing at what point in time, as well. We collect a variety of statistics. Which of them should be released at the time of the press conference? Which of them should be released three weeks later, at the time of the minutes?

CHAIRMAN BERNANKE. Yes. I just want to say that for a long time, we released the SEP with the minutes, and that didn't seem to create major problems. I think it's perfectly appropriate to release information with the minutes.

Okay. All right. I will in a moment adjourn the meeting. There is lunch available, and for those of you who can stay, after the meeting, Linda Robertson is prepared to give us an informal update on congressional developments. It's now 10 minutes to 1 p.m.; why don't we take 10 to 15 minutes to get our lunch?

The next meeting is Tuesday–Wednesday, December 11 and 12. Again, lunch is available, and thank you very much. The meeting is adjourned.

END OF MEETING