

**Meeting of the Federal Open Market Committee on  
November 2–3, 2010**

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, November 2, 2010, at 1:00 p.m. and continued on Wednesday, November 3, 2010, at 9:00 a.m. Those present were the following:

Ben Bernanke, Chairman  
William C. Dudley, Vice Chairman  
James Bullard  
Elizabeth Duke  
Thomas M. Hoenig  
Sandra Pianalto  
Sarah Bloom Raskin  
Eric Rosengren  
Daniel K. Tarullo  
Kevin Warsh  
Janet L. Yellen

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

Jeffrey M. Lacker and Dennis P. Lockhart, Presidents of the Federal Reserve Banks of Richmond and Atlanta, respectively

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

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  
Nathan Sheets, Economist  
David J. Stockton, Economist

James A. Clouse, Thomas A. Connors, Jeff Fuhrer, Steven B. Kamin, Simon Potter, Lawrence Slifman, Christopher J. Waller, and David W. Wilcox, Associate Economists

Brian Sack, Manager, System Open Market Account

Patrick M. Parkinson, Director, Division of Bank Supervision and Regulation, Board of Governors

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

William Nelson, Deputy Director, Division of Monetary Affairs, Board of Governors

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

Charles S. Struckmeyer, Deputy Staff Director, Office of the Staff Director, Board of Governors

Seth B. Carpenter and Andrew T. Levin, Senior Associate Directors, Division of Monetary Affairs, Board of Governors; Michael Leahy, Senior Associate Director, Division of International Finance, Board of Governors; David Reifschneider, Senior Associate Director, Division of Research and Statistics, Board of Governors

Stephen A. Meyer, Senior Adviser, Division of Monetary Affairs, Board of Governors

Daniel M. Covitz and David E. Lebow, Deputy Associate Directors, Division of Research and Statistics, Board of Governors; Gretchen C. Weinbach, Deputy Associate Director, Division of Monetary Affairs, Board of Governors

Brian J. Gross, Special Assistant to the Board, Office of Board Members, Board of Governors

Mark A. Carlson, Economist, Division of Monetary Affairs, Board of Governors

Randall A. Williams, Records Management Analyst, Division of Monetary Affairs, Board of Governors

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

Loretta J. Mester, Harvey Rosenblum, Daniel G. Sullivan, and John C. Williams, Executive Vice Presidents, Federal Reserve Banks of Philadelphia, Dallas, Chicago, and San Francisco, respectively

David Altig, Richard P. Dzina, Mark E. Schweitzer, and Kei-Mu Yi, Senior Vice Presidents, Federal Reserve Banks of Atlanta, New York, Cleveland, and Minneapolis, respectively

Todd E. Clark, Vice President, Federal Reserve Bank of Kansas City

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

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**November 2—Afternoon Session**

CHAIRMAN BERNANKE. Good afternoon, everybody. Governor Raskin attended the videoconference, but this is her first in-person, live, face-to-face FOMC meeting, so I'd like to welcome her. Also, Janet has been to a few meetings [laughter] but not in her current capacity as Vice Chair of the Board. Congratulations, Janet. And thanks, also, to First Vice President John Moore, who will be representing San Francisco today.

We have no new information on the nomination of Peter Diamond to be a member of the Board of Governors. As you'll recall, his qualifications to serve had been questioned. He has since taken steps to remedy that. [Laughter] It's good work, but whether it will be sufficient I don't know. Still, we're hopeful that he will be reviewed and confirmed. I have spoken to him, and he remains as committed to joining the Board as he was prior to the announcement of his Nobel Prize.

The first item today is an unusual one. I hope to talk a bit about our external communications, and I would like to limit this discussion to 45 minutes or so. I mentioned at the videoconference three issues that had been of concern, not just to me but also to a number of people around the table who had spoken to me about it. The first was leaks to the press, and particularly some leaks that involved characterizations of other people's views at the meeting, confidential materials, and the like. We circulated the Program for Security of FOMC Information to remind folks about the rules. The second issue, which arose a bit later, was prompted by a wire story that raised concerns about inappropriate access to information by outsiders other than the media, including consultants, market people, and so on. We obviously have important reasons to talk to people like that, and, certainly, there's some basis for

exchanging ideas. But, clearly, there's also the possibility that some of these folks could profit from information gained in talking to Federal Reserve principals or staff, and I think there's considerable risk to us if it turns out that someone improperly used that information. I think we would all agree that it's important to manage these two matters appropriately, and I'd like to propose that we create a small subcommittee, consisting of Presidents and Governors, to look at these issues, to talk to people, and to try to come up with some guidelines to help us address them. Janet Yellen has agreed to chair the subcommittee.

The third issue I mentioned at the videoconference is a little more squishy—it may be more a matter of preference and operating procedure than security per se. It's the tendency for people to take very strong, very inflexible positions on policy matters prior to the meetings at which those decisions will be made. It's a longstanding tradition at the FOMC to try to maintain at least some plausible deniability in order to have a reason for a meeting—otherwise, we could just do notation votes and save all the travel expenses. Now, this may or may not be a fixable issue. It may be a function of the difficult circumstances that we are currently involved in. But I wanted to put that on the table as well. We circulated Michelle's memo describing the protocol for public statements, which is given to all new members of the FOMC. I'd be interested in your views on the substance as well as on whether it would make sense to have Janet's subcommittee look at this issue as well, perhaps as a project that's separate from the first two. Again, it's possible that nothing much can be done about it, but maybe we could come together and find some basis for a more cooperative solution than what we currently have.

As I said, I don't want to spend too much of the Committee's time on these issues—no more than 45 minutes or so—and I don't want to do a full go-round, as there's no need for that. But I certainly would be happy to have some comments on the issues, on the subcommittee, on

the charge of the subcommittee, or anything else people would like to talk about. Janet, did you want to introduce that?

MS. YELLEN. Yes. Thanks, Ben. Let me just say that I share your concerns. I think we've come in for a lot of criticism of our external communications—we're getting low grades, and they're not entirely undeserved. I personally see them as damaging our credibility and our reputation at a time when the institution is under enormous scrutiny, and we can ill afford it.

I think the first issue that you raised on communication should be a no-brainer. We're obliged to maintain the confidentiality of FOMC information—period, full stop. And that includes documents that we look at in the FOMC and information on who said what. It's obvious that these guidelines have been breached. I also know from personal experience over the years that it's easy for this to happen—it can happen pretty innocently when an experienced reporter lures one into revealing things that end up crossing the line. But I'm assuming it should be completely noncontroversial that we all need to be more careful and to abide by the Program for Security of FOMC Information. So I think it's not going to take long for our subcommittee to look at that—at least I hope not.

The second issue you raised is more subtle, and it is an important one for the subcommittee to take up: How do we ensure that our conversations with market participants and outside consultants don't create the impression, and even the reality, that well-connected outsiders have access to inside information? I myself sometimes talk to market participants, and I do value those discussions, but I think we are placing ourselves at risk. I think the guidelines that Michelle prepared and circulated are a terrific starting point, but maybe we need to go further, and I look forward to hearing your ideas on this.

Regarding the third issue—voicing policy views prior to meetings—I believe it’s a long-standing tradition of the Committee to refrain from publicly articulating firm positions on the stance that a member is going to take on future monetary policy moves. In some ways, I think following this tradition was easier and more straightforward when we were doing conventional policy. We just had to be aware that we should refrain from speculating about future moves on the federal funds rate or indicating any firm view of our own. I recognize that, now that we’ve hit the zero bound, the options are a lot more complicated, so it seems natural to weigh in on what kinds of tactics we could or couldn’t support. But, frankly, I think many of the comments we’ve made are destructive of collegiality and of the Committee process—they do come close to feeling like a situation where we walk into the room having said, in effect, that it doesn’t matter what arguments or evidence one of us around the table musters, because our minds are made up.

I think it does more than undermine collegiality. I think we’ve been generating a great deal of noise and market volatility. That’s something we’ve consciously tried to avoid in the past. It’s not that we’re not entitled to independent views—I think we absolutely are, and we have a right to express them. I’ve always been a firm believer in the notion that it’s important for us to walk in here with independent views, because it helps us avoid groupthink, which is a huge danger, and because it enriches the debate. But when the Committee actually makes a policy decision, I feel that, when we make public remarks, we all have an obligation to state clearly what the policy is and what the rationale for it is, even if we might think or want to say individually that we have some qualms about it or some disagreement with it.

One way to strengthen the voice of the Committee that we’ve discussed a bit would be for the Chairman to speak about policy more frequently and, perhaps, at critical moments, such

as when we've made key policy decisions. This could occur through background press briefings, as happened several times during the crisis, or at periodic on-the-record press conferences.

During our videoconference, I noted that a number of you supported approaches along those lines, and such approaches are getting some thought around here. At any rate, I look forward to talking to all of you as we move forward, and I hope we can develop some guidelines we can agree to live by.

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

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. As you know, I feel very strongly about this issue. In 1977 and 1978, President Carter had a group of three that wrote all of his decision memoranda—Jeff Garten, a supervisor, and I. By the time we wrote them and got them to him, which was a day after the economic policy group meetings, everything had been leaked to the press. It was leaked by either principals or staff. The reason for the leaks was either that they opposed the view or, frankly, that they just wanted attention—they wanted to be big deals. Now, there were a lot of problems with the Carter Administration, but this problem, in particular, was incredibly corrosive and divisive. What I saw firsthand as the Assistant to the Secretary of the Treasury was that it led to principals literally hating each other at the end of the process.

That is not what this institution is all about. I just want to underscore how divisive and dangerous it can be in undermining the mission of a great institution like this. I hope that everybody in this room, whether sitting in the back rows or as principals at the table, is most mindful that this is a precious institution. It is unique in Washington. We can't undermine it by this kind of behavior.

On the second issue of people that have close relationships with market participants, I think of it as akin to insider trading. There are people who do profit. There is one former Governor who recently visited my Bank when I was gone and who told the staff that the Reserve Bank Presidents are of no consequence at all to monetary policy, that their views are not considered, and that this individual—I'll let you guess who it is—was, in essence, the 18<sup>th</sup> or 19<sup>th</sup> member, depending on how many we have, of the FOMC, and the equivalent of a voting member. He makes money off of us when he talks and sells. If we can't solve this, then I think we should seriously look at some kind of firm legal strictures that are equivalent to the prosecution of insider trading. If people make money off inside knowledge about our decisions, it's no different from people who make money off inside information trading securities. In fact, I think it's a more grievous abuse.

On the issue of speaking for others, here's exhibit A: *In Fed We Trust*. This was a disaster. Whoever spoke to this writer, David Wessel, was duped by the trick that Michelle carefully warns against and that you refer to in your excellent memo. I got a call from him a couple of months later saying, "I understand that you changed your vote, that you walked down the hall, that you came back and talked to the Chairman, and that the Chairman announced the decision." You'll remember that was when I dissented and then decided that I just didn't feel that was an appropriate thing to do and that it would undermine the cohesion of the group. He knew more about what I had said than I did, and I had said it. So somebody who was in this room reported, and maybe that person isn't in this room any longer. This goes back to the point I was trying to make with the Carter experience: "Pride goeth before a fall." You may get attention at the time by talking to these people, but all you do is create divisive forces within the Committee.



On the third matter, I think Janet made a very, very good point. I think we have to be careful to get the right balance—not to muzzle people, and, at the same time, because we’re no longer dealing with the fed funds rate, to be very careful not to signal specific levels of, say, asset purchases or sales. We create market expectations that way. It gets discounted in the market. We begin to become fearful of disappointing markets, even though I don’t believe this Committee should ever be fearful of disappointing markets. And we certainly shouldn’t think in short-term consequences. We are paid to think long-term about the health of our economy. But I think it could be a worthwhile exercise.

I feel most strongly about the first two. And, Mr. Chairman, I ask you to be very firm on these issues. There’s no excuse for insider trading—it’s a criminal offense, and it should not occur. In terms of speaking to others, or leaking materials from this room, it will do nothing but wreak havoc with this institution. Thanks.

CHAIRMAN BERNANKE. Thank you. President Hoenig.

MR. HOENIG. Thank you, Mr. Chairman. One of the difficult things behind all three of these, I think, is that when we speak with individuals off the record, no one knows exactly what was said. We also get into this issue of signaling with what is done off the record, and that binds us and puts us all in an awkward position going forward.

I think that if we don’t address that issue, the other issues will still stay confusing. For example, by asking different people questions off the record, they get what they think is a signal. And that puts others in the position of having to speak on the record to modify things and say, “Well, that may not actually be the case,” and so forth. So I think that’s a major issue to consider. Thank you.

CHAIRMAN BERNANKE. Anybody else?

MR. HOENIG. Oh, I have one other thing I was going to say. On the second issue you raised, I think President Fisher was referring to the idea that some people advertise themselves as in a consultancy role to the Fed, and that's an issue that's becoming more predominant. I had correspondence with, I think, the same individual that President Fisher did, and he also asserted that he was the 19<sup>th</sup> or 18<sup>th</sup> member of the FOMC, very important, and so on and so forth. So how we put strictures on those from whom we get information that we need is a very important consideration as well.

CHAIRMAN BERNANKE. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Mr. Chairman. I completely support what's been expressed here. I talked about it a little bit at the last meeting, in fact. I think there's one other issue that could be explored in a bit more detail. That issue is not what happened before the meeting, but what happens *after* the meeting in terms of pulling together behind what the FOMC's decision is, so that, if someone doesn't agree with the FOMC decision, it's not re-litigated endlessly in the press afterwards. Also, if there are disagreements—and I believe that it's completely legitimate to have disagreements—they are discussed in a way that doesn't impugn the motives or intelligence of the people who made the decision in an affirmative way. I think that's extremely important. I think people need to be able to express their views, but, at the end of the day, it's about the Committee and about the Federal Reserve System, it's not about any individual. So, once decisions are made, I think people should pull together and support them to the degree that they can.

MR. FISHER. Mr. Chairman, can I ask a question? We talked about the blackout period being before the meeting. I always assumed the blackout period also ran after the meeting. Can we have some clarity on that?

CHAIRMAN BERNANKE. Yes, it runs till Friday of the same week.

MR. FISHER. Okay. I don't know if it's in your memo, Michelle, but it runs afterwards, and I think that's worth observing.

CHAIRMAN BERNANKE. Anyone else? President Kocherlakota, I saw you first.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. I'm new, so I hesitate to speak on this, but I think one thing we want to be careful about regarding the third issue is that the press does tend to exaggerate statements. They're always trying to read who's on what side, and they play that game. Nonetheless, especially when we face such difficult issues as we face now, I think it is useful to hear reasonable dialogue and discussion about the matters confronting the Committee. In your Jackson Hole speech, Mr. Chairman, you laid out certain sets of tools that are available, and, in my view, it has been good to have various members of the Committee speak on it. President Dudley spoke on it; I've spoken on it; President Rosengren and President Evans have spoken on it. I actually learned from reading these speeches, and I assume that the general public also learns something. So I think there is a value to that, and we don't want to kill all of that just because some blog in the *Wall Street Journal* is counting out who's on what side.

CHAIRMAN BERNANKE. I think we all agree that diversity of opinion is very important and that the public needs to know what arguments are being made. I think the issue really is a question of style and tone and those sorts of things. Governor Duke.

MS. DUKE. First, I just wanted to echo the comment about speaking about specific levels or amounts and creating expectations that we then feel compelled to meet; I think whatever policy agreement we make ought to cover that.

On the third issue, I think it's hard to put into a guideline, but it's thinking about what it is we're really trying to do. I've been one of the most vocal over the last two meetings on the

importance of communicating what our framework is and how we're thinking about it. During this intermeeting period, I think it has been explained in probably 16 different ways. If we come to an agreement that you, Mr. Chairman, are going to go out and answer the questions and fill in the holes, then we should respect that in the same way that we respect some of our other official communications. I think having one explanation out there would be helpful. Thank you.

CHAIRMAN BERNANKE. Thanks. Anyone else? President Evans.

MR. EVANS. Could I ask a question? Vice Chairman Yellen—

CHAIRMAN BERNANKE. It's Governor Yellen.

MR. EVANS. Governor Yellen. Oh, in this Committee—

CHAIRMAN BERNANKE. “Your Highness” will be fine. [Laughter]

MS. YELLEN. Good suggestion.

MR. EVANS. Regarding your subcommittee, I think it would be useful to refresh our understanding of the blackout period. I understand that it goes until Friday—it might have even gone through the weekend originally—but I think that many of us have run afoul of Friday because of things like conferences. For example, I have the greatest respect for former Governor Kohn, but even he could run afoul of this because of some speech that he was asked to give in Europe. So that would be one topic for your committee—just refreshing that understanding and maybe having a light tap on the wrist for certain types of things like that.

Here's another issue. To the extent that we're clearer on what our objectives are and on the framework that we're using, a lot of these discussions become less important or newsworthy, so that's something to consider.

CHAIRMAN BERNANKE. Thanks. What I'd like to propose, Janet, is that you choose some people for your subcommittee—and those who are interested in serving should let Janet

know. Then I'd like to propose that your subcommittee look at the first two items for sure and think about what additional steps or guidelines we might want so that we make sure that we are not inappropriately releasing information to anybody who is not entitled to it.

On the third matter, I'll be happy to listen if anyone has further thoughts. Janet, perhaps you and the subcommittee could have some conversations with people around the table on the general issue of our collective communication—whether there should be guidelines of some sort, for example. Again, I want to be very careful to say that this is not about content—this is about timing and style and those sorts of things. If there seems to be some kind of consensus, then maybe we can formalize that into a memo. If there clearly is not, then perhaps you could just report that, and we will just leave it at that. Thank you.

On the matter of communication, let me just say a word about the issue that Governor Yellen raised about my communication. At the videoconference, some interest was expressed in my giving more on-the-record interviews, press conferences, and so on, and I have been interested in doing that for some time. I think I mentioned to a few of you that we entertained very seriously the possibility of doing a briefing for attribution tomorrow afternoon after the meeting. We've had some qualms about that. Michelle Smith has been advising me on this. We're a bit concerned that what will amount to an unannounced press conference on a day that is already somewhat fraught would contribute to market volatility. At worst, I could end up unintentionally distorting the message of the Committee, which, of course, is summarized by the statement. So, if I may, for tomorrow I'm going to stay in the mode of staying off the record. I do have tentative plans to put out an op-ed in a day or two that will describe in very general terms what we are doing and what our strategy is, and I'll be attending President Lockhart's meeting at Jekyll Island this weekend, which will be also an opportunity to comment.

But more substantively, I do think that I need to give press conferences that are on the record, on camera, periodically, and I propose to start doing that with the release of the projections from this meeting, which will be in three weeks. Many other central banks do something similar. It would provide an opportunity to describe a piece of news—the outlook of the Committee—and relate that to our policy actions and other issues.

So that's our current thinking. If everyone's okay with that strategy, there's one other matter that relates to it. We already have to release the minutes a day early because of the Thanksgiving holiday, and I think I would like to do this press conference before the minutes come out so that I wouldn't have to be interpreting the minutes. That means that the Survey of Economic Projections would have to be released two days before the normal time. I don't know if this would require any formalities, but what I'd like to do is break up those two components and approve them separately, so that the SEP can go out, say, on Monday, and then the minutes can go out as planned on Tuesday, and on Monday or on Tuesday morning I could have this press conference. That would be my proposal. I see people nodding. Is there any concern?

MR. LACKER. Summary first, press conference, then minutes?

CHAIRMAN BERNANKE. SEP on the 22<sup>nd</sup>, press conference with its release.

MR. LACKER. With the release.

CHAIRMAN BERNANKE. With the release of the SEP, and then minutes the next day.  
Okay?

MR. LACKER. Sounds good.

CHAIRMAN BERNANKE. So the only thing that requires from the Committee is that we approve the SEP a day earlier, but the schedule for the minutes would be the same as usual.

MR. PLOSSER. As you think about starting to do this, have you thought about what the regular interval might be? Do you envision doing this at about that length of time between the meeting and the minutes? Is it going to be a regular thing, or what were you thinking?

CHAIRMAN BERNANKE. No, at the moment I think we're committing only to twice a year. In other words, it's only twice a year that the projections come out and I don't have a Humphrey-Hawkins testimony. So then, maybe based on what happens in three weeks, we might want to have a further discussion around the table about whether additional press conferences would be appropriate.

MR. PLOSSER. So basically what you're saying is that right now you're thinking about doing it the four times a year when the SEPs come out?

CHAIRMAN BERNANKE. Well, maybe only twice a year on those times when I don't have congressional testimony associated with it.

MR. PLOSSER. I've got it. I see what you're saying, right.

CHAIRMAN BERNANKE. One thing I will not do without further consultation with the Committee is hold a press conference right after an FOMC meeting. I think that will require some discussion, because we would have to figure out how comfortable we are and how we would structure it and so on.

MR. PLOSSER. I was just asking how you were thinking about the regularity of this, and you answered my question.

CHAIRMAN BERNANKE. Michelle, would you like to say something?

MS. SMITH. Right. I just wanted to remind people that you pull these projections together four times a year. In the winter and in the summer, the Chairman goes and presents the

Monetary Policy Report to the Congress with these projections. So the press conferences would be in the fall and the spring.

CHAIRMAN BERNANKE. That's all we have planned so far, but I think the first time will be a big step, and we'll see where it goes from there. Thank you very much for this conversation. I'm glad we can have a frank discussion of what are somewhat delicate matters.

Let's now turn to the business of the meeting and go to the briefing on financial developments, and I'll call on Brian Sack.

MR. SACK.<sup>1</sup> Thank you, Mr. Chairman. Financial market developments over the past several months have been dominated by mounting expectations that the Federal Reserve would launch a new asset-purchase program. Those expectations have prompted a set of asset price changes that have made financial conditions more supportive of economic growth.

Nominal Treasury yields generally moved lower since the last FOMC meeting, but the trends over this period are much more pronounced if one focuses on the components of those yields. In particular, as shown in the upper left panel, TIPS yields declined sharply since the last FOMC meeting, bringing the five-year measure well into negative territory. In contrast, break-even inflation rates, shown in the upper right panel, moved significantly higher, reversing much of the decline that had taken place since the spring. On balance, as summarized in the middle left panel, the real yield fell about 50 basis points at the five-year maturity, while the break-even inflation rate rose nearly 30 basis points. A similar pattern was evident at the 10-year maturity point.

These changes appeared to be driven primarily by expectations that the Federal Reserve will initiate an asset-purchase program to expand its balance sheet further. As can be seen in the middle right panel, the Desk's survey of primary dealers places the probability of balance sheet expansion at this meeting at around 90 percent. The probability of such an action by year-end has been increasing since June, but it ramped up notably over this intermeeting period in response to the September FOMC statement and the active discussion of this issue in communications by individual FOMC members. The effects of those expectations on Treasury yields and broader financial conditions appeared consistent with a portfolio-balance channel.

At the same time that expectations of asset purchases were building, the expected timing of the first increase in the federal funds rate was being pushed further into the future. As shown in the bottom left panel, market participants now see the first rate hike as most likely occurring around mid-2012—a dramatic shift from the

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<sup>1</sup> The materials used by Mr. Sack are appended to this transcript (appendix 1).



expectations in place earlier this year. Moreover, market participants appear to have become increasingly confident in this assessment. As shown in the bottom right panel, the implied volatility of outcomes for short-term interest rates over the next 12 months has collapsed to very low levels.

Other asset prices have been influenced by the policy-induced low-rate environment. Corporate bond yields moved down by more than the decline in Treasury yields, causing corporate yield spreads to narrow further over the intermeeting period, as shown in the upper left panel of the second exhibit. Moreover, corporate bond issuance has surged for both investment-grade and high-yield securities, indicating that corporations continue to take advantage of the low-rate environment.

Equity prices, shown to the right, advanced briskly, with the S&P index up about 4 percent over the intermeeting period and up about 13 percent from its trough in late August. These gains were driven to a large degree by the downward shift in the risk-free returns available to investors, which may have encouraged some investors to move into riskier assets. In addition, both equity and corporate bond markets benefited from stronger-than-expected corporate earnings for the third quarter.

The increase in equity prices was even more pronounced in emerging-market economies. Capital poured into the financial markets in those economies, given the more robust recovery that they are experiencing and the low yields in the United States and other advanced economies. In response, equity prices in those markets gained sharply, with the MSCI Emerging Markets Index up about 6 percent since the last FOMC meeting.

The shift in prospective asset returns in the United States relative to those in the rest of the world also put downward pressure on the value of the dollar. As shown in the middle left panel, the DXY dollar index fell about 5 percent over the intermeeting period, continuing the general trend observed since the second quarter.

The value of the dollar has been a topic of intense focus in the international community, with some observers arguing that an asset-purchase program by the Federal Reserve may have a disproportionately large effect on the currency and hence be detrimental to growth abroad. However, the decline in the dollar has been consistent with the shift in relative yields and inflation expectations observed in recent months. Moreover, conditions in foreign exchange markets remain liquid and orderly, and the market is not pricing in an unusual risk of a sharp dollar decline going forward, as shown by the risk reversal pricing to the right.

The bottom left panel focuses on the recent behavior of financial institutions. Equity prices for the financial sector as a whole were little changed over the intermeeting period. However, investors became increasingly concerned in recent weeks about problems in the securitization process for residential mortgages. These problems could allow holders of mortgage-backed securities to force financial

institutions that originated mortgages or sponsored the securities to buy back nonperforming mortgages. In addition, issues surfaced surrounding the processing of mortgage foreclosures by financial institutions, potentially causing delays in foreclosure efforts. These concerns weighed on the equity prices of some large financial institutions.

The market for mortgage-backed securities has not been significantly affected by these developments. In the agency MBS market, investors are insulated from such issues by the guarantee provided by the GSEs. In the private-label MBS market, there has not been a significant impact on prices, as suggested by the indexes shown in the bottom right panel, although trading activity has reportedly diminished some in light of the greater uncertainty associated with these developments.

Your final exhibit reviews recent changes to the Federal Reserve's balance sheet and discusses the views of market participants on prospective changes going forward. The upper left panel shows the distribution of our purchases of Treasury securities to date under the policy of reinvesting the principal payments from our holdings of agency debt and agency MBS. As planned, the purchases have been concentrated in Treasury securities with remaining maturities between 2 and 10 years, and the average duration of purchases so far has been about 5½ years. To date, we have purchased \$65 billion of securities, and the operations have been met with strong participation by primary dealers.

The duration of these purchases roughly matches the average duration of our existing Treasury holdings, shown by the dark blue line to the right. Thus, our reinvestment policy has left this measure about unchanged. Note, however, that the duration of our Treasury holdings exceeds that of our agency debt and MBS holdings. Thus, as the allocation of the portfolio swings towards Treasuries, the average duration of the SOMA portfolio as a whole will rise.

Of course, the focus of market participants has not been just on the reinvestment policy, but on the possibility of an expansion of the SOMA portfolio. As noted earlier, the market is placing high odds on an expansion being announced at this meeting. Our recent survey of primary dealers and buy-side investors attempted to measure the expected size and structure of a purchase program should the FOMC decide to announce one.

As reported in the middle left panel, about two-thirds of the respondents expected the FOMC to announce a program of about \$500 billion of purchases of Treasury securities over the next six months, with the FOMC retaining the flexibility to change the total size of purchases as needed. About one-third of the respondents instead expected a more incremental approach, in which the FOMC would announce only the purchases to be conducted over the next intermeeting period or so, with a size of around \$100 billion. No respondents expected an announcement of even larger purchase sizes than these two options.

The median response from the survey indicated that purchases were expected to cumulate eventually to levels around \$1 trillion. The expected total size of purchases did not vary much with the expected structure of the program.

The survey also asked about how the 10-year yield would react to various announcements about the size of asset purchases over the next six months. As shown to the right, respondents saw considerable market effects from asset purchases. An announcement of a \$500 billion program was expected to push down the 10-year Treasury yield by 5 to 10 basis points. This response is modest because expectations for a sizable program have already been established. Indeed, the survey results suggest that the Treasury yield has already fallen sharply in anticipation of the asset purchases. This can be seen by the 30 basis point increase in the yield that would be expected if the FOMC announced no purchases.

Together, these readings suggest that respondents attributed 35 to 40 basis points of movement in the 10-year Treasury yield to a \$500 billion shift in the balance sheet. The effect on the real interest rate was seen as even more pronounced.

This view on the effectiveness of purchases was widespread across primary dealers and buy-side investors. Thus, there seems to be little disagreement among investors with the notion that changes in the balance sheet affect financial conditions. However, there is considerable debate among market participants on the extent to which such changes ultimately affect economic activity—an issue that was not addressed in our survey.

Your last two panels present indicators related to some of the perceived risks around an asset-purchase program.

Some market participants have questioned whether additional balance sheet expansion could present difficulties for a future exit from policy accommodation. One relevant measure in that regard is the expected volatility of long-term interest rates. If market participants have considerable concerns about our ability to exit from an expanded balance sheet, then one might expect to see the market price in greater volatility of long-term interest rates beginning several years ahead. As shown in the bottom left panel, the volatility of the 10-year rate beginning three years ahead implied by swaption prices has instead moved lower in recent months and is close to the middle of its historical range.

Another concern might be that the balance sheet expansion could dislodge inflation expectations, perhaps because of concerns about the ability to exit. As noted earlier, break-even inflation rates have moved up sharply over the intermeeting period. This increase showed through strongly to the five-year, five-year forward rate that is often used to gauge the Federal Reserve's credibility for keeping inflation low and stable over the longer run. As shown in the bottom right panel, this measure has moved into the upper half of its historical range. However, we interpret the repricing

to date as consistent with the view that the FOMC will credibly return inflation to levels consistent with its dual mandate.

Clearly, it will be important to monitor these two measures and other indicators of associated risks as part of the ongoing assessment of the Federal Reserve's balance sheet actions.

I will close with a brief update on the development of our two reserve-draining tools. Overall, the staff continues to make good progress towards ensuring the readiness of these tools and expanding their capacity to drain reserves.

Consistent with the Board announcement in September, the Federal Reserve began conducting regular, small-scale auctions for its Term Deposit Facility. The staff's current intention is to conduct a \$5 billion auction for a one-month deposit every other month. The first such operation, which took place on October 4, was met with strong demand, and the second operation will occur near the end of this month. The Term Deposit Facility currently has 542 registered depository institutions, with more trickling in over time.

Similarly, for reverse repurchase agreements, the Desk conducted five small-scale operations over the intermeeting period. These operations were notable in that they included money market funds as counterparties for the first time. At this point, our counterparty list includes the 18 primary dealers and the 26 money market funds that were approved in August. In addition, an additional 32 money market funds have begun the application process to become eligible counterparties. Thank you. That concludes my prepared remarks.

CHAIRMAN BERNANKE. Thank you, Brian. Are there questions for Brian?

Governor Warsh.

MR. WARSH. Brian, given the understandable preference for Treasury purchases in roughly the 3- to 10-year range, what's your view on the widening gap between 10- and 30-year rates, which flows out of that preference? Is this a source of concern? What do we think are the implications for corporate finance more broadly? That is, given that we're driving down rates for 5- and 10-year Treasuries, are we changing issuers' own thinking about where they want to fund and for what sort of term and duration?

MR. SACK. In the first asset-purchase program and in the reinvestment program, we've concentrated purchases in the 2- to 10-year sector of the curve. That decision was based on

several considerations. One was that that's the duration range where most private issuance takes place. Another was that it's a big, liquid part of the curve. Nevertheless, we've spread purchases out beyond that sector, and the purpose of doing so was to avoid creating significant kinks or odd patterns in the shape of the yield curve. So I think that has been largely successful.

Now, the 10s/30s slope has gotten a lot of attention in financial markets recently because it has steepened a good amount, and there's a lot of discussion about whether, if another asset-purchase program were launched, we would consider moving more strongly into bonds in order to offset that. We don't feel strongly that we have to do that. The 10s/30s curve is primarily steepening because the 10-year yield is falling, and the forward rates between 10 and 30 years have risen some, but they're not unusually high by historical standards. Having said that, in the proposal the Desk has put together for alternative B, which we'll discuss in detail tomorrow, we are proposing feathering a small amount of additional purchases into the long end just to make sure that we don't exacerbate that distortion to the shape of the curve. So the bottom line is that we'd like to operate in the 2- to 10-year sector, but we're also cautious about not creating too much distortion in the shape of the curve even out to the bond.

CHAIRMAN BERNANKE. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. Brian, how confident are you that, if circumstances arose and we had to start to drain, we could get a significant amount of draining accomplished over some kind of reasonable time frame, say, six months? I'm looking for just a really broad-brush sense here.

MR. SACK. We do have significant draining capacity today, as the development of the draining tools has progressed largely as we had expected. At an earlier meeting we had estimated the draining capacity to be something like \$900 billion. I believe that we had

something like \$500 billion in the Term Deposit Facility and then another \$400 billion on the reverse repo side. On the reverse repo side, I think we're approaching those capacity numbers, or, at least, we will be approaching them once we get this next wave of money funds on line. We still think we have \$150 to \$200 billion of capacity through the dealers, and then the rest is through the money funds. On the Term Deposit Facility side, as far as I understand it, that is progressing as expected, so I would expect those capacity numbers still to hold.

I should emphasize, though, that it's very hard to judge capacity ahead of time, so those are estimates with wide confidence bands. One difficult issue is trying to figure out how much the capacity will automatically rise as additional reserves reach the market, as would be the case if the FOMC decided on an asset-purchase program. Obviously, those reserves will be at banks, so, just by having those additional reserves, one would expect the capacity to be rising, and, even if it doesn't rise at a rate that's one for one with the reserves, it would still be at a rate that's significant. But, again, it's difficult to judge.

MR. ENGLISH. I think that's right. What Brian just described is consistent with the work that's been done here. The big question is the extent to which reserve additions could be drained more or less one for one, and I think the answer is something less than one for one. Some of those reserves would end up being held by institutions that are not participating in the term deposit program, and there would be some process whereby they could get those reserves to institutions that are participating, but probably there'd be some leakage. Our sense is that, at an appropriate rate, we could drain very considerable reserves through the Term Deposit Facility.

MR. LOCKHART. Thank you.

CHAIRMAN BERNANKE. Other questions? President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. Brian, as I think about QE, I can understand how it's affecting spreads, so I can see why the break-even spread might go up as a result of anticipated QE. I've been puzzling about why real yields have shifted down so dramatically in response—we see this 50 basis point decline in the 5-year real yield and a 40 basis point decline in the 10-year real yield. This is actually going maybe the opposite of what I would have thought. What is the staff thinking about that, that is, about why real yields responded so dramatically?

MR. SACK. Well, the view that we've been describing is that the asset purchases worked by taking that duration out of the market and, therefore, essentially repricing the term premium. One view is that it is a portfolio-balance channel—just having less duration risk in the market means that those investors left holding the remaining duration risk are willing to do so with a lower expected return. Another way to say it is that it's harder and harder to force people out of holding Treasury securities, so, as we purchase, those most willing to hold them with a lower expected return are the ones that remain.

I know that different theoretical models will give very different assessments of how big that effect should be. Some would point out that, since there are all sorts of asset classes with duration risk, it's not obvious why this one should have such a large effect. But, from a practical perspective, the empirical evidence seems to show that the prospect of asset purchases did have a significant effect on the yield curve and on financial conditions.

MR. KOCHERLAKOTA. It sounds to me that that's more about the slope of the yield curve, but it seemed like the whole level is falling, although I may be misinterpreting what's in the data. It seemed like the levels of real returns themselves are falling, and it's not just that the

slope is getting shallower. In fact, I think you could argue that the slope has not gotten shallower.

MR. SACK. Right, but when we look at how longer-term rates have fallen, we do see two components. One is that policy expectations have repriced, which could be pulling down the short- and intermediate-term yields. And we believe that the term premium also has been falling; one reason we believe that is that you see these effects on real yields very far out the curve in terms of forward rates, and the other reason is that models that do try to separate those two pieces all suggest that the term premium is coming down.

CHAIRMAN BERNANKE. Other questions for Brian? President Plosser.

MR. PLOSSER. Brian, do you think there'd be any difference between the duration effects of our purchases that you're talking about, and those if the Treasury announced a program to quit issuing long-term bonds and issued short-term bonds instead to fund the deficit?

MR. SACK. Conceptually, under the portfolio-balance view, those two do have similar effects. The effects we're talking about arise from the amount of duration that's left for the private sector to hold, and that could be changed through debt management decisions just as easily as it could be changed through our portfolio decisions. But there are two differences to highlight. First, we can move a lot more quickly than debt managers—obviously, as they change their issuance calendars, that changes duration, but only slowly, as the auctions occur, and we can move faster than that. Second, debt managers do not have an economic mandate. They operate under a mandate of being regular and predictable and minimizing their borrowing costs over time, so they don't really have a clear structure through which they should make debt management changes like that in order to affect economic outcomes.

CHAIRMAN BERNANKE. Other questions? President Bullard.



MR. BULLARD. Thank you, Mr. Chairman. I want to refer to exhibit 3, panel 17, the implied volatility of longer-term rates, and, in particular, I guess the implied volatility of a 10-year rate three years ahead. You argued that this volatility has been declining. Just in looking at this picture, I wonder whether this really does predict volatility three years out very well. For example, the picture says that in 2006 and 2007 this market would not have expected very much volatility, which has turned out to be completely wrong.

MR. SACK. That's a fair observation. [Laughter]

MR. BULLARD. So what's the forecasting record of this?

MR. SACK. I wasn't trying to make the point that this is a perfect forecaster of future volatility. I would argue that, if market participants today saw considerable complications with the Federal Reserve's exit, then they would likely price in greater volatility of long-term interest rates at those horizons at which we would be exiting. So, even if it's difficult to predict what the volatility will be, these data still represent investors' views today about policy challenges the FOMC can face. That was the only point I wanted to make—I didn't want to make any claim about how good a predictor this measure is.

MR. BULLARD. Okay—if this measure doesn't have that good a track record, then we can't really rely on it to give us any indication.

MR. SACK. Well, no. A bad track record as a predictor doesn't mean this is not an indicator of investors' views. It just means that those views don't turn out to be correct. It's fine to say we can't be reassured because investors are sanguine—that it is no reason we should be sanguine as well. That's an absolutely fine point to make.

MR. BULLARD. Fair enough.

MR. PLOSSER. Can I just follow up? It's not just volatility that matters for our exit, but it's also the level of the rates that's going to matter, and this doesn't really address that.

MR. SACK. That's right.

MR. PLOSSER. You can imagine that the markets may expect rates will be a lot higher, but they may or may not be more volatile. So there are both the level and volatility issues, and this only addresses the volatility.

MR. SACK. The forward rates suggest that the markets expect long-term interest rates to remain relatively low and that they will gradually rise, but not sharply. This is a measure of whether the markets see a lot of risk around that forecast, and it suggests not an unusual amount of risk.

CHAIRMAN BERNANKE. Other questions? [No response.] If not, I need a motion to ratify domestic open market operations.

MS. YELLEN. So moved.

CHAIRMAN BERNANKE. Thank you. They are ratified without objection.

Let me just note again that you received memoranda on financial stability. We're continuing to ramp up our activities in keeping the FOMC well apprised of developments in financial stability. In particular, an important step is that the Board has now set up its new Office of Financial Stability Policy and Research, which will help to coordinate financial stability research and monitoring around the System. I've spoken to President Rosengren and others about coordination among Reserve Banks and the Board in developing our monitoring capacity. I think we all agree that this is very important and that we want to have a very broad-based ability to see what's going on in the financial sector, not only in those areas where we have direct responsibility, but even beyond that. I'd also like to note that Nellie Liang has agreed to be the

first Director of this office. I'm sure she'll do a great job, and we have a great deal of confidence in her in that position.

Let me turn next to the economic situation and call on David Wilcox.

MR. WILCOX. Thank you, Mr. Chairman. On the whole, the incoming economic data during the intermeeting period were remarkably kind to our projection in the September Tealbook, so I will discuss them with relative dispatch.

With respect to real activity, two of the key components of private domestic demand—consumption and business spending for equipment and software—appear to be running a little stronger than we expected in the second half of this year. But thus far, the pickup in those sources of demand relative to our earlier expectation has been met out of imports rather than domestic production. Consistent with that view, industrial production decelerated in the third quarter and looks poised to slow further in the fourth quarter. Soft patches in IP during a recovery phase are quite typical, though an outright decline, should one occur, would be more uncommon.

The BEA's first estimate for real GDP in the third quarter, published on Friday after we closed the Tealbook, came in a few tenths stronger than we had expected. However, some of the upside third-quarter surprise was in federal spending—a category that's constrained over time by appropriations. For this reason and some others, we trimmed our expectation for the current quarter by a few tenths, leaving our forecast for real GDP growth over the second half as a whole unrevised from the September Tealbook at a tepid 2 percent.

The one labor market report that we received during the intermeeting period—the one for September—also came in very close to our expectations. Private payroll employment increased a lackluster 64,000 in September, and the unemployment rate was unchanged at 9.6 percent. Initial claims for unemployment insurance have retraced their run-up earlier this year, and the four-week moving average is now back down into the neighborhood of 450,000. However, that level is still high enough to suggest that the pace of layoffs has not diminished much this year. Meanwhile, the available indicators of hiring remain weak, so, for the fourth quarter, we expect private payroll gains to average only about 90,000 per month, unrevised from the September Tealbook and about equal to the average gain over the past few months. And we expect the unemployment rate to edge back up to 9.7 percent, again unrevised from September. This coming Friday, we will receive the first of two employment reports that will be published during the upcoming intermeeting period.

Turning to inflation, the most recent data on core PCE inflation have been a little softer than we expected. Taking on board the information included in the GDP releases published last Friday and yesterday, we now have core inflation running at a 0.9 percent annual rate over the second half of the year, a couple of tenths below our forecast in the September Tealbook. On the other hand, the bump in oil prices last

month caused us to nudge up our expectation for top-line PCE inflation over the second half by a tenth to 1.4 percent.

Stepping back for a moment from the latest monthly price readings to focus on longer-run trends, underlying inflation by a variety of measures has declined noticeably since the beginning of the recession. As Deb Lindner showed yesterday in her briefing for the Board, the pattern differs somewhat across measures, but the broad contours are very much the same. For example, the most recent 12-month change in core PCE prices is down 1.3 percentage points from its level at the business cycle peak in December 2007. Similarly, inflation measured by the Dallas Fed trimmed mean PCE index is down 1.7 percentage points, by the market-based core PCE index is down 1.4 percentage points, and by the Cleveland Fed median CPI is down 2.6 percentage points. In other words, all these measures, including the core PCE price index, show a noticeable decline in inflation over the past three years.

On the whole, therefore, the economic situation appears very much as it did at the time of the September meeting. Real GDP continues to trend upward, though at only a sluggish pace thus far. Job creation continues at an anemic pace, and the unemployment rate still seems poised to continue roughly at its current level for the next few months. Meanwhile, consumer price inflation remains subdued, and survey measures of inflation continue to move sideways.

While there was relatively little news with respect to either real activity or inflation, financial conditions, as Brian noted, became noticeably more supportive of economic growth during the intermeeting period: The foreign exchange value of the dollar moved lower, and stock prices moved higher. The nominal yield on the 10-year Treasury note traversed a wide range during the intermeeting period, but as of last night, was down about half a dozen basis points, on net, from the time of the September Tealbook.

As best as we could tell, the improvement in financial conditions reflected, in substantial part, a strengthening conviction on the part of market participants that you will announce some further policy accommodation at the conclusion of this meeting. In putting together the baseline forecast, we had to specify an assumption about your policy decisions, not only at the conclusion of this meeting but also in the future. One obvious possibility would have been to assume no further increases in the size of the SOMA. Another possibility would have been to assume that you would ratify market expectations. Those expectations vary widely but seem to center, as best we can tell, on an increment to the SOMA cumulating to roughly \$1 trillion. A third possibility was to condition the staff forecast on a policy similar to alternative B in the Tealbook, which lies roughly in between the other two options. A good case could have been made for any of these three alternatives.

To facilitate the Committee's discussion, we took the approach of showing what our forecast would look like under all three policies. To do this, we conditioned our baseline projection on the middle option, and included a box on pages 4 and 5 of

Book A, in which we sketched the implications of deviating from the baseline policy in either direction. As described in the box, if you choose not to announce any expansion of your asset purchases and you convince the market you will not reconsider that decision, we would trim about 0.7 percentage point from our baseline forecast for the level of real GDP at the end of 2012, add around a quarter of a percentage point to the level of the unemployment rate, and shave about a tenth from our forecast of both core and top-line PCE inflation. To a very close approximation, in other words, if you were to decide to undertake no further expansion of the SOMA, we would respond, based on the information available to us today, to a very close approximation by handing you back the forecast that we published in the September Tealbook.

On the other hand, if you announce an incremental purchase of \$1 trillion, and likewise convince the market not to extrapolate even further beyond that, we would add about 0.4 percentage point to our baseline forecast for the level of real GDP at the end of 2012, slice about a tenth and a half from the level of the unemployment rate, and add about half a tenth to our forecast of core and top-line PCE inflation.

Finally, I thought I might end by briefly touching on the arithmetic of the supply side of our projection. At first glance, you might be surprised to see that we raised the level of real GDP by 0.6 percentage point at the end of 2012, and yet we have the GDP gap nearly a percentage point smaller by then. And despite having a noticeably smaller GDP gap at that point, we revised down the unemployment rate by only a tenth of a percentage point. To paraphrase my pre-teen daughters, “What’s up with that?”

The key to understanding how it all hangs together is to remember that we nudged up our assumption for the NAIRU in this round. In particular, based on some recent modeling work by my colleagues Charles Fleischman and John Roberts, we think we can better account for inflation dynamics before the business cycle peak in December 2007 with a slightly higher NAIRU than we had previously assumed. Accordingly, we now assume that the NAIRU held steady at 5 percent before the recession rather than edging down to 4¾ percent. We have maintained our earlier assumption that the NAIRU increased by 1 percentage point during 2008 and 2009 as a result of the increase in permanent job loss during the recession and the consequent increase in mismatch between available jobs and unemployed workers. Moreover, as before, we continue to assume that extended and emergency unemployment benefits have been affecting the unemployment rate and will continue to do so, though to a steadily diminishing extent, until the end of 2012.

Putting all these effects together, therefore, we now have a NAIRU that, by the end of 2012, is about a quarter of a percentage point higher than we assumed in the September Tealbook. Applying an Okun’s law coefficient of about 2, the adjustment to the NAIRU therefore explains why the output gap at the end of the projection is nearly a percentage point smaller than in the previous projection, even though the level of real GDP is only 0.6 percentage point higher. And the changes to our supply-

side assumptions also explain why the actual unemployment rate is projected to be only 0.1 percentage point lower at the end of 2012, even though the output gap is so much narrower.

Nathan will now continue our presentation.

MR. SHEETS. Friday's advance NIPA data indicate that the U.S. economy is clinging tenaciously to its role as the world's importer of first resort. [Laughter] Net exports now subtract a hefty 2 percentage points from U.S. real GDP growth in the third quarter, compared with a roughly neutral contribution in the September Tealbook. Exports were softer than we had anticipated, expanding at only a 5 percent pace. And imports continued to show remarkable strength, climbing 17½ percent, after an expansion of more than 30 percent in the previous quarter.

Given that U.S. consumption, E&S investment, and inventories during the third quarter also came in stronger than was expected in the last Tealbook, the surge in imports may reflect a post-recession rebound of domestic spending in categories that are particularly import-intensive. As such, we are sticking to our story that the recent pace of import growth represents a robust but essentially one-off bounceback from the recession-induced trough. Our forecast for the current quarter thus has imports falling back some—and export growth picking up—causing net exports to add nearly 1¾ percentage points to U.S. growth. But this story can be stretched only so far. Following the third-quarter surge, real imports are now very close to their pre-crisis peak and, in fact, are somewhat above the level predicted by our trade models. Further upside surprises would send us back to our desks to rethink our views.

Going forward, the external sector features prominently in the upward revision to the U.S. outlook, as David has noted. We expect import growth over the next two years to settle at roughly a 6 percent rate and to broadly mirror the contours of the projected U.S. recovery. We see exports expanding at a pace of around 8½ percent through the forecast period, up nearly 1 percentage point from the previous forecast.

This stronger projection for exports is largely the result of our lower path for the dollar. The broad nominal dollar is down about 3 percent since the September Tealbook, with market commentary attributing much of this decline to anticipated large-scale asset purchases by the Federal Reserve. As we outlined in a Tealbook box, our analysis of the response of the dollar to previous LSAP announcements—as well as simulations using our large-scale models—suggests that an LSAP that reduced yields on 10-year Treasuries by 25 basis points would trigger a depreciation of the dollar somewhere in the neighborhood of 1 to 3 percent. In light of these estimates, our best judgment is that an LSAP of moderate size has now been priced into foreign exchange markets. Of course, any such estimates are highly uncertain. Looking ahead, we see the dollar depreciating at about a 2½ percent pace in each of the next two years, with this depreciation coming disproportionately against the emerging market currencies.

In line with the recent decline in the dollar, as well as stronger readings on global oil consumption, the spot price of WTI has risen to \$83 per barrel, up more than \$6 since the last Tealbook. Prices of nonfuel commodities have also risen, with factors in addition to the dollar playing a central role. For example, recent news from the USDA of a weaker-than-expected harvest has pushed up corn prices, and supply concerns have caused cotton prices to rise sharply. Given these upward moves in nonfuel commodity prices, coupled with the direct effects of the lower dollar, prices of imported core goods are likely to rise at an annual rate of 4½ percent this quarter and next, before moderating to increases of 1¾ percent in the middle of next year.

Growth in the advanced foreign economies appears to have slowed to around 2 percent in the second half of this year. Consumption and trade data are coming in soft in Canada and Japan, and activity in Europe is moderating but continues to be resilient in the face of ongoing concerns about the peripheral countries. We expect growth in the AFEs to remain lackluster in 2011, at around 2 percent, and then to edge up to 2½ percent in 2012. Although further normalization of financial conditions and progress in repairing balance sheets will help raise private spending, growth will increasingly be weighed down by fiscal consolidation, especially in Europe.

In recent weeks, several advanced-economy central banks have leaned toward an easier path of monetary policy. The Bank of Japan did so explicitly by cutting its policy rate a bit further, committing to hold the target rate near zero until inflation in a 0 to 2 percent range is “in sight,” and announcing an asset-purchase program worth about \$60 billion. In addition, markets pushed back expectations for when policy rates would be tightened by both the Bank of Canada and the Bank of England, the latter of which is actively debating the possibility of further asset purchases. Notably, additional action by the FOMC could very well be the tipping point that would lead the Bank of England, and perhaps the Bank of Japan as well, to implement significant further easing measures. In contrast, our friends at the ECB—although unlikely to raise their benchmark policy rate any time soon—seem intent on winding up their unconventional operations, despite persisting vulnerabilities in Greece, Portugal, and Ireland.

In the emerging market economies, the prospect of further quantitative easing in advanced economies has been a source of considerable angst. Our counterparts at EME central banks have openly complained that surging capital inflows are driving up domestic asset prices, causing their economies to overheat and putting unwelcome upward pressure on their exchange rates. Data for EME-specific mutual funds and U.S. portfolio investment abroad show that inflows to the EMEs have risen over the past couple of months to relatively high levels. The situation at present does not seem to pose any first-order risks either to these economies or more generally, but sustained inflows of this magnitude could eventually become a cause for concern.

Largely in line with our expectations, real GDP growth in the EMEs appears to have cooled from its robust 8 percent pace in the first half of the year to just over

3 percent in the second half, as the inventory and trade cycle has matured and policy has begun to tighten. We project that EME growth over the next two years will rise back to around 5 percent, supported by continued growth in China—where recent data have pointed to strength—and the projected recovery in the United States. This path of EME activity rises only a bit above our rough estimates of potential output, but increased inflation pressures or imbalances in certain countries or sectors are clearly a risk, especially given the recent rise in capital inflows.

To date, EME central banks have responded to these developments by some combination of tightening monetary policy, stepping up intervention in currency markets, imposing additional capital controls, and allowing some appreciation of their currencies. The People’s Bank of China unexpectedly raised its lending and deposit rates for the first time in three years; and the central banks of Chile, Singapore, and Taiwan also tightened. Both Brazil and Thailand announced new measures to discourage portfolio capital inflows in an attempt to ease pressures on their currencies.

However, the drivers of increased capital inflows are more fundamental than just divergent stances of monetary policy. These flows reflect market expectations that the cyclical rebound in the EMEs will be more robust than in the advanced economies and that the long-term prospects for the EMEs are likely brighter as well. But if such views prove correct, at least some EMEs should be capable of absorbing greater exchange rate appreciation. This, in turn would bring a rebalancing of global demand away from economies that are running relatively hot and toward the rest of the world. The result would be a more balanced and sustainable global recovery. In contrast, EME policies geared at continued reliance on external demand—and repression of domestic spending—are likely to result in subpar global outcomes, as private demand in the United States and other advanced economies is unlikely to be as robust as it was before the crisis.

Gretchen Weinbach will now continue our presentation.

MS. WEINBACH.<sup>2</sup> I will be referring to the package labeled “Material for Briefing on FOMC Participants’ Economic Projections.” On balance, the projections you submitted for this meeting embody appreciably weaker real activity this year and trace a somewhat more gradual economic recovery than you anticipated in June. Exhibit 1 shows the broad contours of your projections for 2010 through 2013 and over the longer run. Nearly all of you see GDP growth, the top panel, picking up over the next couple of years, while the unemployment rate, the second panel, moves down slowly, and both headline and core inflation, shown in the bottom two panels, edge up but remain subdued. Somewhat more than half of you indicated that these variables would likely converge to their longer-run rates within about five or six years, but the rest of you noted that unemployment may still be above or inflation below their longer-run rates at the end of that period.

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<sup>2</sup> The materials used by Ms. Weinbach are appended to this transcript (appendix 2).



Exhibit 2 reports summary statistics regarding your projections for 2010. As usual, your previous projections, collected in June, are shown in italics, and the memo items note the staff's Tealbook forecasts. The central tendency of your current projections for real GDP growth this year, shown in the first column of the top panel, is a narrow band from 2.4 to 2.5 percent, down from 3 to 3½ percent in June. Looking at the middle column, the BEA's annual benchmark revisions and second-quarter data that were published after you submitted your June projections showed less rapid real GDP growth in the first half of 2010 than you or the staff had expected. As shown in the third column, you have lowered your implicit projections for growth in the second half of this year quite a bit; they now exhibit a narrow central tendency centered on 2¼ percent, down from about 3 to 3½ percent in June. And, as shown in the second panel, the central tendency of your projections for the unemployment rate in the current quarter moved up about ¼ percentage point.

Your expectations for overall and core inflation are shown in the bottom two panels. The central tendency of your projections of overall inflation in the second half of this year, given in the right-hand column of the third panel, are now somewhat higher than in June, but your projections of core inflation, shown in the bottom panel, have changed little.

Exhibit 3 displays the central tendencies and ranges of your projections for 2011 to 2013 and over the longer run. Most of you see at least a modest pickup in the pace of the recovery next year with real GDP expanding about 3 to 3½ percent, followed by increases of 3½ to 4½ percent in 2012 and 2013. Nearly all of you retained your assessments of the longer-run rate of GDP growth, leaving the central tendency unchanged at 2½ to 2¾ percent.

Regarding the unemployment rate, the second panel, you generally revised up your projections. Most of you now expect the unemployment rate to be near 9 percent at the end of next year and to decline to about 7 to 7½ percent by the end of 2013. A number of you appear to attribute some of the increase in unemployment over the projection period to long-lived structural factors. Indeed, more than one-third of you raised your projection of the rate of unemployment in the longer run, and the upper end of the central tendency of these projections rose from 5.3 percent to 6.0 percent. The bottom of the central tendency remained at 5 percent.

Even though your outlook for both overall and core inflation, depicted in the bottom two panels, has edged up since the June SEP, you generally continue to expect inflation to stay subdued over the next several years. The central tendency of your projections for total PCE inflation is about 1 to 1¾ percent in 2011 and 2012; it moves up to 1¼ to 2 percent in 2013. However, most of you see a path for inflation through 2013 that does not exceed your longer-run inflation projections, which now exhibit a central tendency of 1.6 to 2.0 percent, a bit wider than in June.

The staff's outlook as presented in the Tealbook embodies rates of real GDP growth that are at, or a bit above, the top end of the central tendencies of your

projections for the next few years, and rates of inflation that are at the low end of your central tendencies. The staff's projections of the unemployment rate are within the central tendencies of your projections. Regarding your less optimistic outlook for growth, some of you noted reasons that reflected: the view that further expansion of the Federal Reserve's balance sheet would provide relatively little stimulus to the economy; anticipation of a substantial ongoing drag on growth from the housing sector, perhaps stemming from mortgage documentation problems; and expectations that lingering pessimism and risk aversion would continue to weigh on household spending and business investment and hiring.

Regarding your monetary policy assumptions, about a third of you—a somewhat smaller fraction than in June—indicated that your assessment of appropriate monetary policy involved less accommodation than assumed by staff, in the form of less expansion of the Federal Reserve's balance sheet going forward, a faster decline in the size of the balance sheet in the future, or a federal funds rate that lifts off sooner than in the staff's baseline forecast. Only a couple of you thought that it would be appropriate to implement a more accommodative policy stance than the staff assumes, by expanding the balance sheet by more or by keeping the funds rate near zero for longer.

Turning to your final exhibit, the two left-hand panels show that most of you continue to attach a relatively high degree of uncertainty to your projections of both real GDP growth, the top set of bars, and PCE inflation, the bottom set. The two right-hand panels summarize your characterization of the balance of risks around these projections. A majority of you now judge the risks to your current forecast of GDP growth to be balanced, although a significant number of you continue to view the risks as weighted to the downside. Those seeing downside risks cited the fact that monetary policy is constrained by the zero bound, the limited potential for further fiscal stimulus to help address any future negative shocks to the economy, and concerns that the anticipated recovery of the housing market may take much longer than expected.

The bottom right panel shows that most of you continue to judge the risks to your projection of PCE inflation as being broadly balanced, although some of you think that upside or downside risks predominate. On the downside, some of you were concerned about the degree to which lingering resource slack could weigh on inflation, or continued low readings on actual inflation might show through to inflation expectations. Those of you who cited upside risks to inflation generally noted uncertainty about the timing and efficacy of the Fed's withdrawal of policy accommodation, or a concern that the expanded Federal Reserve balance sheet could undermine the stability of longer-term inflation expectations. Thank you. That concludes our prepared remarks.

CHAIRMAN BERNANKE. Thank you very much. The floor is open for questions.

President Fisher.

MR. FISHER. I'll ask a question of Nathan, and then I'd like to ask a question of Gretchen. Nathan, you report on your surprise at the import numbers. What was the composition, to the best of our knowledge, or do we know yet? What does it tell us? Was it oil or something else?

MR. SHEETS. Let me back up. In the second quarter, the 33 percent surge was broad-based across all classes of imports, and it was particularly skewed towards automotives and capital goods. But the third-quarter numbers that we're getting are somewhat less about automotives, though they continue to be about capital goods. We're also seeing some strength in consumer goods, which is a very important piece of information. But in general, both quarters have been fairly broad-based.

MR. FISHER. Gretchen, I have a question about what we sent out yesterday with the SEP. I thought there was an interesting result to the question about whether one's view of the appropriate policy differed materially from that assumed by the staff in the Tealbook. The result was 8 to 10. Is that unusual, or is that common?

MS. WEINBACH. I believe in the June set of projections, 12 had a different view. So it has been a higher count at times, if I'm not mistaken.

MR. FISHER. So there were 8 yes, 10 no. Of course, this is a fairly new process, but there's nothing unusual about that balance, or is there?

MS. WEINBACH. I see. I haven't looked back at the history of those responses to see if these are unusual.

MR. REIFSCHEIDER. Right from the start, I think, a majority of the Committee has always disagreed with the staff outlook. [Laughter]

MR. EVANS. There's a more trivial explanation than that.

MR. REIFSCHEIDER. Until recently, I think the general pattern was that most participants expected monetary policy, the funds rate, to be lifting off noticeably earlier than staff. That's been shifting, and some of the disagreement this time is that a couple of you expect policy to be easier. So now it's on either side.

MR. ENGLISH. So the disagreement was certainly less this time than last time.

MR. FISHER. Thank you. That's all I wanted to know.

CHAIRMAN BERNANKE. President Evans.

MR. EVANS. When you fill this out, it says if you disagree, please explain why. The only way you can explain or provide any color is to disagree. [Laughter] So it's biased towards saying that you disagree.

MR. KOCHERLAKOTA. Actually you probably could write something even if you didn't disagree.

MR. EVANS. Yes, you could. I think I encouraged my staff to do that this time.

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. It looks to me as if one could say that the main effect of the asset-purchase program on real growth for the U.S. acts through the value of the dollar. I say that because the effect of the program on, for example, 2011 economic growth is 0.3 percent. That's about the amount by which the forecast changed from the last Tealbook to this, and you sort of invited us to equate those two; the change in the contribution of net exports to real growth is 0.3 percent, and, for all the other components of GDP, the contribution changes by a tenth of a percent or less and they all net out.

MR. WILCOX. In our judgmental forecast, we decompose the effect as due about two-thirds to the dollar effect, with the remaining one-third being split roughly equally between the lower bond yields and the higher stock values.

MR. LACKER. Thanks.

CHAIRMAN BERNANKE. Okay. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. This is for Nathan Sheets. I just wanted to see if I could clarify something. You said that, regarding the emerging market economies, you saw no first-order risks. Is that correct?

MR. SHEETS. Yes.

MR. BULLARD. So, even though we're hearing a lot about dollar depreciation and the consternation that is causing in the rest of the world, you're not really seeing too much danger there? Is that correct?

MR. SHEETS. I would say that we're certainly hearing a lot of hue and cry, and that over the last couple of months we've seen a significant pickup in capital flows to EMEs. But, at this point, we don't see widespread problems with currencies being overvalued, we don't see widespread problems with asset bubbles, and we don't see widespread problems with inflation and economic overheating. If flows were to continue at this significant pace for an extended period of time—and I don't know how long that is; I don't know if that's 6 months or 12 months or 24 months—certain problems might emerge.

That being said, it's also important to put all of this in a broader context. As I emphasized in my remarks, I see a lot of this happening independent of any decision that this Committee makes. It's true that these flows are partially in response to interest rate differentials and policy differentials, but also, independent of what we're doing, the emerging markets are

enjoying a very strong cyclical rebound, and the data over the intermeeting period were, if anything, a bit on the stronger side for them. Beyond the near term, these countries structurally are very attractive targets for investment. So, given the cyclical and structural challenges, I think there is an increased burden on the emerging markets to put in place robust policy responses to capital flows, and I think they're moving in that direction—they're responding in a variety of different ways with a variety of different policy tools. There's no simple answer, but I feel that they're making progress. At this stage I'm not pushing any panic buttons, but we'll continue to watch very closely.

MR. BULLARD. Would you extend that analysis to Japan, where the yen has been a lot stronger in the last few weeks and months?

MR. SHEETS. I would put Japan in a much different category and a much different situation from these robust, dynamic emerging-market economies. My feeling about the present valuation of the yen is that it is high if looked at from a two- or three-year perspective. When you look at the real effective yen relative to where it has been over the last 10 or 15 years, it's very close to the middle of the range, and Japanese exports this year have been reasonably strong. I think that the dynamism in Asia is a much more important issue for Japan and its external competitiveness than whether the yen is at 85 or 90 or 82 or whatever.

MR. BULLARD. Okay. Thank you.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. Nathan, you mentioned two countries that are sort of leaning towards an accommodative mode besides us: Japan and the U.K. Are there others? Canada?

MR. SHEETS. Well, Canada tightened during the intermeeting period, but our best guess now is that Canada is going to stay put for a year or so—that's what's incorporated in our

forecast and that's what we're hearing from the Bank of Canada. I would be surprised, as I said in my remarks, if the ECB moved. Regarding the Bank of England, I personally put more than 50–50 odds on it implementing further accommodative measures over the next six weeks or two months. And I think that, once the Federal Reserve and the Bank of England moved, there would be intense pressure on the Bank of Japan to do something more. It comes out every few months with incremental measures that are slightly more accommodative, but I think there would be pressure on it to do something in a significant fashion. I can't think of changes at any other major central banks. The Sveriges Riksbank also tightened over the intermeeting period but emphasized uncertain global conditions, so it seems that it may be in a "stay put" mode; and the Reserve Bank of Australia actually just tightened, which I take as a very positive signal about conditions in Asia.

MR. FISHER. Thank you. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Any other questions? President Lacker.

MR. LACKER. Mr. Chairman, this was useful information about the effect of LSAPs on the outlook. I'd just note the contrast between the two-page box we got and the wealth of detail we get about alternative scenarios that vary by things we can't control, and I would appreciate fuller information at future decisionmaking meetings.

CHAIRMAN BERNANKE. Okay. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. This is a question that I hope will prove helpful in preparing for our discussion in January about structural unemployment. One piece of information that crossed my desk recently was that the percent of the labor force that had been unemployed for more than 52 weeks was about 0.4 percent in 2007, and now that number is 2.9 percent. So, when we're talking about the modeling of the NAIRU, how do you

think about that group in terms of the kind of downward pressure they'd be putting on wages? Is there some special attention paid to them? Well, I guess I'll just throw that out as a general question.

MR. WILCOX. The part-time or unemployed?

MR. KOCHERLAKOTA. I'm referring to the people who have been unemployed for greater than 52 weeks. The reason to include them one for one in the NAIRU would be that you're thinking they're the same as somebody who's been unemployed for four weeks in terms of what kind of downward pressure they'd be putting on wages. Presumably you don't think about them in the same way, but then how do you distinguish across these groups when you're thinking about modeling the NAIRU?

MR. WILCOX. I think it's pretty hard to distinguish these various categories of underemployment and detachment from the labor force. They have a lot of coherence across groups. Permanent job losers is one category that I mentioned in my prepared remarks. There's presumably a high degree of overlap between the permanent job losers and those unemployed 27 weeks and longer; part-time for economic reasons is another group. We attempt to discern differences in the amount of pressure that these various groups are putting on the evolution of inflation. It's really hard to get even a first-order effect, and to go to the kind of second-order distinctions that you're pointing to is yet another level more difficult.

MR. KOCHERLAKOTA. I'm not as convinced as you are that this is second order. It is a very novel experience for the United States, fortunately, to have so many people unemployed for so long. It just seems to me intuitively that that group would exert different kinds of downward pressures on wages, because when employers make hiring decisions, they will view those candidates very differently from those who have been unemployed for only 10 weeks.



MR. WILCOX. To be clear, I am not disagreeing with you—I am expressing frustration because, in our experience, it has been difficult to get the data to speak clearly to the issue.

MR. REIFSCHNEIDER. This is, in part, why we raised the NAIRU. We assumed that, during the crisis, the fairly persistent component of the NAIRU went up a full percentage point, and we think that the extended duration of unemployment is one of the factors behind that. Implicitly, in our longer-run forecast, we're not telling a European hysteresis-type story—one in which these people will never be employed again. We are implicitly saying, though, that reemployment is going to take a number of years—some of these people will have a hard time getting back to work, but they do get back to work. So we're assuming that they have not given up, that they're actively looking for jobs, so, in that sense, they will be putting downward pressure on wages. As David said, it's very hard to say whether it's the same amount of downward pressure as someone who has been out of work only for 12 weeks.

CHAIRMAN BERNANKE. It's difficult because the disinflation effects are the strongest in deep recessions, which, of course, are the situations when you have the most long-term unemployed, so there are a lot of corollary things going on—discouraged workers, part-time employment, and so on.

MR. WILCOX. But, again, it is precisely with the kind of rationale that you articulated that led us to move up the NAIRU by a percentage point from 2007 to 2009.

CHAIRMAN BERNANKE. Any other questions? Governor Yellen.

MS. YELLEN. Can I just make a brief point on that? I think we've seen that one of the reasons that the duration of unemployment has become so long for so many people is that the quit rate is unusually low at this point. That means that people who are employed and have jobs aren't getting out of their seats looking for new jobs—if they did, they'd be creating vacancies

for people who are unemployed. So, one reason that it's so hard to get a job if you don't have one is that nobody who has a job seems willing to move. That could be interpreted as a measure of great fear in the labor market that people not only are not getting outside offers, but they also don't want to take the risk of moving to another city, looking for a job when they get there, and so on. So existing employees who are unusually fearful could be putting more than the normal amount of downward pressure on wages; that would counteract what you're saying.

CHAIRMAN BERNANKE. That's true.

MR. PLOSSER. It seems to be working for bank examiners, though. They're getting lots of outside offers. [Laughter]

CHAIRMAN BERNANKE. Any other questions?

MR. TARULLO. See, now that you don't come to these other meetings, you miss these jokes. [Laughter]

CHAIRMAN BERNANKE. All right, I think we are hitting diminishing marginal returns. [Laughter] Are we ready for the economic go-round? Seeing no objection, let's start with President Hoenig.

MR. HOENIG. Thank you, Mr. Chairman. I will start with the national outlook and speak the obvious, because it has been talked about here already. The recovery continues to improve steadily, even though we are undergoing some pretty major rebalancing—and those have to see their way through, as I have said before. But over time I do expect the expansion to pick up, with GDP rising slowly but steadily from its current level as the recovery gains some momentum.

Since the end of last year, consumer spending on durable goods has risen nearly 6 percent, and industrial production is up nearly 5½ percent. Since December, the economy has

added 860,000 private-sector jobs. That is not a level that anyone is satisfied with, but it is positive, and it is moving forward. More to the point, temporary jobs are growing fairly robustly.

The inflation outlook, obviously, remains low in the near term, but I suspect over time that it will increase as demand picks up and as our monetary policy has its effect. We see that in commodity prices today, and I think we can anticipate it somewhat in the declining value of the dollar. We did talk with some of those who do the Blue Chip survey, and, for the first time, they do have a 100 percent positive response that the FOMC will engage in quantitative easing at this meeting, which is fairly significant from that survey's point of view.

Let me turn just briefly to the District economy and say that conditions in our region are certainly consistent with developments at the national level. The District economy is growing at a moderate pace, with a little bit of variance among the states, because those states with relatively large energy or agriculture sectors are doing the best and remain the strongest. District energy firms have extended the expansion in hiring and capital spending that started this year. They're shifting employment from natural gas to higher-priced crude oil, and that shift is going fairly rapidly right now. In some areas in energy, in that sense, there's a real boom going on in our region.

In agriculture, obviously, we're seeing a big crop, and high crop prices have spurred a lot of further increases in capital spending and gains in farmland values. Again, we're seeing farmland auctions move up to where fairly good land in parts of our region and in parts of Iowa are being auctioned off at better than \$8,000 an acre, which is a pretty dramatic increase over the last year. One of our contacts, who is in a widely diversified multinational company, has observed that the company's businesses are seeing strong growth in a number of places around

the world, especially Asia, and also noted that conditions in Europe are stronger than expected last spring. One interesting indicator of economic activity the contact mentioned is the usage of diesel and jet fuel, especially in their Alaska operations, which is fairly large because of the traffic between here and Asia: It's up in the last quarter about 30 percent in terms of the traffic that is going back and forth.

Contacts noted that companies with access to capital markets have all the money they can use. The cash-accumulating firms were seeking places to deploy it, with many choosing to invest abroad rather than in the United States, and we heard something similar today from Nathan. They noted that today's market provides a solid spread for borrowing at low rates in the United States and investing elsewhere, and they're doing it at a fairly significant pace and level. One contact acknowledged that access to capital was not an issue for his firm, its 20,000 customers, or its competitors. And, to avoid bad business decisions otherwise encouraged by ready access to cheap money, his company has implemented an interest rate floor for internal use of capital, well above the firm's unusually low cost of funds, and that is global.

Finally, I will just say that business contacts that we have talked to around our region generally agree that an exceptionally uncertain business climate—particularly around health-care costs, tax policy, and environmental issues—is a major concern for them and has caused them to hold back. Otherwise, they are kind of waiting in the wings to see how things go, and they certainly do have the capital and wherewithal to move forward when they choose to do so.

Thank you.

CHAIRMAN BERNANKE. Thank you. President Rosengren.

MR. ROSENGREN. Thank you, Mr. Chairman. My forecast for the economy in the near term is much like the Tealbook's. I, too, have the unemployment rate ending the year where it began, at 9.7 percent, and falling only to roughly 9 percent by the end of 2011.

Over the past two years, we have been experiencing gradual disinflation, and, with the likelihood of continued weakness in labor markets, my forecast expects this disinflationary trend to continue. I would highlight that the disinflation we have experienced, and are likely to continue to experience, is most unwelcome, in part because it increases the short-term real interest rate. In December of 2009, the year-over-year core CPI was 1.8 percent. In the most recent release, the year-over-year CPI was 0.8 percent. The decline in core PCE has been smaller, but still the most recent PCE release shows a continued deceleration. With the short-term interest rate pinned at zero, falling inflation has increased the real fed funds rate, creating an unintentional tightening of monetary policy. Thus, even if one assumes that the risk of deflation is low, preventing any further disinflation is important. In fact, I believe that we should be working harder to return inflation to 2 percent over a reasonable horizon.

In terms of labor markets, I recently had a meeting with my Academic Advisory Council, which includes a variety of economists from Harvard, Yale, and MIT. They are generally a rather unruly bunch—[laughter]—but they were unanimous in their view that most of our current unemployment is the result of inadequate demand. In fact, their biggest concern was that remaining at this elevated rate of unemployment would create a structural unemployment problem, which only further emphasized the need, in their view, for more aggressive fiscal or monetary policy actions. Two members of my Research Department, Chris Foote and Richard Ryan, have further investigated one possible source of structural unemployment. Some have posited that the fall in housing prices has made homeowners much less willing or able to move.

If this were true, one would expect the duration of unemployment would diverge between homeowners and renters, with renters more willing to relocate to obtain employment. Using the Current Population Survey, they examined whether unemployment duration varies between homeowners and renters after controlling for worker demographics, workplace skills, and the strength of the home-state housing markets. They find no statistical difference between homeowners and renters. Instead, they find that long-duration unemployment spells are ubiquitous and are not confined to construction, to lower-educated, to lower-skilled, or to housebound workers. These findings seem consistent with inadequate aggregate demand being the main source of unemployment duration.

I've also met with a variety of asset managers over the past month. Those discussions indicate that even the possibility of quantitative easing is having a significant impact on their expectations of interest rate and exchange rate movements. They do not seem to have any doubt that our actions could alter financial market conditions materially. However, there is a wide range of views on the likely impact on the economy of easier financial market conditions.

My own view of the ability of quantitative easing to affect financial market conditions is not unlike that of the Tealbook. However, I would say that the effect of quantitative easing, through the exchange rate channel, may be of a larger magnitude than I had previously thought. I would also highlight that movements in interest and exchange rates over the past month associated with the perceived changes in the probability and magnitude of quantitative easing seem to confirm what I am hearing from market participants, namely, that adjustments to a quantitative easing program can have a meaningful impact on financial market conditions.

Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. Economic activity across the Sixth District appears to be steadily trending positive but is still quite lackluster. Expectations, while somewhat uneven by sector, are more positive than negative. Among our directors and business contacts, there has been a small but discernible improvement in sentiment about the future. However, nothing in the regional reports during this cycle would cause us to alter our slow-growth outlook. Business leaders in the Southeast pretty uniformly report that their investment spending relates to share capture, continued productivity gains, necessary equipment replacement and maintenance, and meeting regulatory imperatives. There is still little spending premised on domestic demand growth.

Turning to the national economy, the glide path of the overall national economy also seems to be upward, but at a moderate pace and still from a low base. The third-quarter GDP report last week provided some encouragement in the private demand components of personal consumption expenditures, business investment inventories, and nonresidential structures. These modest improvements are consistent with the outlook that my staff and I have projected for quite some time. My submitted forecasts for economic growth have been on the low side of the spectrum over the last year and outside the central tendency of the Committee. In the context of this rolling outlook, the softening experienced in the middle months of this year hasn't so much constituted a falloff from expectations and a worsening of the outlook as much as it has the playing out of substantial quarterly variability along a path of slow, gradual recovery.

We've been testing our basic narrative in a variety of ways and have come up with little reason to change it. My view of the economy and the one represented in the alternative scenario entitled "Lower Potential" are nearly identical. A key attribute of this outlook is the existence of constraining elements that can be described as headwinds or structural factors or simply

processes that are slow to work themselves out. The Committee is familiar with the litany of headwinds. These include a cautious and restrained credit environment; ongoing deleveraging, especially in the household sector; a housing sector that has not yet achieved stable and growing prices, and, therefore, uncertainty regarding house-related wealth; a commercial real estate sector with much painful restructuring and debt resolution ahead; productivity gains by firms that have been “banked,” so to speak, and thereby give these firms a new standard for “normal” long-term operations; and, finally, persistent uncertainty connected to the country’s fiscal, tax, health-care, and regulatory considerations. Because of this convergence of factors tending to retard the pace of growth, my forecast remains subdued even with the assumption of appropriate monetary policy that implies further stimulus.

I admit to some ambivalence on the question of how effective more quantitative easing can be, given my view of the world we’re in. To my way of thinking, there are two prominent considerations relevant to the questions we’ll deal with in the policy round. First is the structural character of current and prospective unemployment. I’m finding it increasingly difficult to achieve much clarity by using the terms “structural” and “cyclical.” It’s easier for me to think in terms of those features of the employment picture that are likely to abate with further stimulus or not. Both analysis of the trend of new business formation, to cite one important driver of job creation, and anecdotes from business contacts and various industries suggest to me that there are material structural impediments at work.

Second is the direction of inflation expectations, particularly since this is a time to be watchful for moves in either direction. The other side of the inflation expectations coin is, of course, deflation probabilities. There has been some action in this arena recently. Break-even rates in the TIPS market declined from May through August and have since retraced much of



that decline. The recent run-up of TIPS break-evens rates coincides with speculation about a second round of quantitative easing. Factoring in survey measures as well as conversations with business contacts about price pressures, I conclude overall that expectations are relatively stable and appear not to be moving outside historical bounds. That said, my staff has recently done work to derive deflation probabilities from TIPS yields. Our estimate of the probability of deflation rose from about 14 percent in April to a peak of just over 30 percent at midsummer. We place the market's current assessment of the probability of deflation over the next five years at about 20 percent—elevated, but a clear improvement since last summer.

Connecting all of this to my outlook narrative, I come to the view that the slow-growth trajectory implies persistent slack that will put pressure on wages and prices for at least the medium term. In weighting my balance of risks, I have to treat the prospect of unwanted disinflation that possibly leads to deflation as a tail risk to be sure, but not one that can be prudently dismissed. So I see the balance of inflation risk currently to the downside. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. My view of the economy and its trajectory has changed little since our last meeting. Incoming data for the Third District suggest that a modest recovery continues, with little change in trends among the sectors since September. Looking out to mid-2011, most of our business contacts expect us to emerge from this soft patch and for conditions to gradually improve. Consistent with that, we saw a significant rebound in the indexes of future activity and future employment in our business outlook survey in manufacturing in October. Currently, regional labor markets remain weak. This is an undesirable state of affairs, to be sure, but I am not convinced as yet that further monetary policy

accommodation can speed up the recovery in labor markets, even though we would very much like for it to do so.

Our regional data give little indication that sustained deflation is a risk. Our October survey showed a sharp rise in the number of manufacturers reporting higher input costs, and they expect higher costs to continue over the next six months. The index of future prices paid more than doubled last month. So far, regional manufacturers have not been raising the prices of their own outputs, but the October survey did show that many of them are now anticipating that they will raise prices over the next six months; that is, future prices will go up. One of our directors, the CEO of a national baking company, says that food companies are facing rising prices and will have no choice but to raise prices in the near term. Retail sector firms also anticipate rising costs. Some have already been notified by their foreign suppliers that they plan to raise prices next year.

The national recovery did hit a soft spot this summer, and I have revised down my forecast for the second half of the year relative to June. I now expect economic growth for this year to come in around 2½ percent. My medium- to longer-term forecast is little changed. I believe the fundamentals are in place for growth to accelerate to 3 to 3½ percent in 2011, similar to the Tealbook forecast. I do see a somewhat faster decline in the unemployment rate and a faster acceleration in inflation than in the Tealbook.

The economy is growing. Nominal GDP growth has averaged 4¼ percent so far this year. As I have discussed in earlier meetings, monetary policy is already exceptionally accommodative and has been so for more than two years. Some might argue it isn't accommodative enough, based on a Taylor rule formulation of output gaps or employment gaps, but, as we have highlighted, there is a significant measurement problem with these issues, as the

staff even discussed today. Moreover, a Taylor rule formulation based on the growth rate, which has fewer measurement problems, suggests that monetary policy is about right. In the Tealbook, for example, the actual real funds rate, based on lagged core inflation, has remained relatively stable over the course of this year.

It is far from clear to me what the transmission mechanism from further asset purchases to the real economy will be in this environment. The millions of families facing foreclosure, for example, are unlikely to be motivated to increase spending because longer-term Treasuries, or any other interest rate they face, falls by a few basis points. Business leaders and bankers I speak with see little to change their behavior either. Thus, I'm far from convinced that more monetary accommodation can do much, if anything, to speed up the pace of this recovery at this point. Indeed, the Tealbook comparison of the baseline with a policy of "no asset purchase" seems to bear this out. The presentation suggests that \$600 billion of asset purchases would reduce the unemployment rate by 0.1 percentage point, and have no effect on the inflation rate by the end of 2011.

Should we be undertaking policies whose outcomes have such negligible and uncertain economic significance? Some might argue this may mean we need to do more asset purchases to get larger effects. But it isn't at all clear that a linear extrapolation of this framework is a good way to measure potential impacts. Even the Tealbook estimates that a \$1 trillion asset purchase would have a very modest impact. Moreover, what I worry about is that, with a policy of running such large asset purchases, the costs could rise, and perhaps rise exponentially, as our balance sheet increases.

In my forecast, I see inflation rates that are roughly symmetric in the short run but tilted to the upside in the medium to longer term. Inflation is now running between 1 and 1½ percent

measured year over year, which is very near my inflation objective. We have experienced inflation rates of this level before without dire consequences. In addition, most forecasts of inflation, as summarized by both Blue Chip and the SPF, show a gradual rise in inflation over the next year, not a decline. Important to all of these forecasts, of course, is that inflation expectations remain well anchored. And I think the data broadly support that assessment at this point, but I acknowledge that that bears watching very closely.

Some might like to raise inflation expectations in the short run to try to forestall some deflationary risk, but I am dubious that our credibility is so well entrenched at this time that we can manage a policy of manipulating expectations with any precision or with any confidence that our credibility will survive such efforts. Someone pointed out that the current deceleration of inflation is broad-based in nature and indicative of elevated deflation risk. However, Philadelphia Fed staff analysis of the 178 PCE components shows that the amount of disinflation we have witnessed and the dispersion of low or negative inflation across categories are not atypical of past recessions. It's also important to remember that the revisions to PCE inflation are somewhat predictable. PCE inflation is usually revised up. Our last deflationary scare of the early 2000s was entirely revised away. Thus, I think some caution is called for. Putting all of this together, I continue to believe that the risks of sustained deflation are low and do not require a policy response at this point.

In summary, we are experiencing a modest recovery, which I expect to continue and to accelerate somewhat next year. Would I prefer it to be faster? Of course. But I don't think that is achievable by adding more monetary accommodation to the financial markets at this point. And I'll discuss that more in the policy go-round. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Pinalto.

MR. EVANS. Mr. Chairman, could I just ask a question?

CHAIRMAN BERNANKE. Yes.

MR. EVANS. President Plosser, I didn't hear—what was the inflation objective you stated?

MR. PLOSSER. I didn't state one.

MR. EVANS. Oh, I thought you did.

MR. PLOSSER. I said the current rate of 1 to 1½ percent was near my inflation objective.

MR. EVANS. Yes, okay. Thank you.

CHAIRMAN BERNANKE. President Pianalto.

MS. PIANALTO. Thank you, Mr. Chairman. I had a number of opportunities to hear from business contacts throughout my District since our last meeting. In general, business leaders have become more positive about their own situations, but they remain wary about the overall outlook.

My projections for output are broadly in line with their sentiment that the recovery in business activity will be slow and unemployment will remain elevated. Specifically, my GDP forecast is similar to the Tealbook's in 2011, although it is somewhat lower in 2012 and 2013. What's really striking about both my outlook and the Tealbook is how weak the second half of 2010 looks compared with our forecast in June. I'm still expecting to see economic growth, but I'm concerned that the slow growth rate in my outlook leaves the economy susceptible to another slump.

My business contacts continue to tell me that lending to small and medium-sized enterprises remains constrained, and the very slow return to a more normal lending environment

is holding back economic growth. Last week I spoke with an industrial builder who owns and leases out a large number of his own industrial facilities. As his loans come due, he's finding that the properties are being appraised at lower values and that the banks will only finance 65 percent of those lower valuations. Consequently, even though the cash flows from these properties are still intact, his company will have to put up more equity to refinance the loans. His company has been building cash balances as a precaution against just this kind of event, but that limits his ability to put his capital to work for his own use. Several CEOs from large companies in my District have also expressed concerns about the ability of some of their suppliers to obtain bank financing. The CEO of a major steel company, whose orders are growing rapidly, told me that his company is financing one of its suppliers who couldn't obtain bank financing to meet his orders. I think these stories illustrate that banking conditions still have a way to go before we can say that they have normalized.

On unemployment, I project only a moderate decline in the unemployment rate over the next few years, moving down to just under 8½ percent by the end of 2012. This result is consistent with research being done at the Cleveland Fed that uses labor market flows to estimate the longer-term unemployment rate. Estimates generated by this method predict a higher longer-term unemployment rate than is contained in most of the projections submitted for this meeting. An interesting implication of this research is the conclusion that labor markets have been less dynamic over the last 10 years than they were over the rest of the postwar period, particularly in terms of job-finding rates. My business contacts corroborate these findings, citing many reasons for their slow hiring. Nonetheless, they generally tend to expect that this slowness will be an ongoing feature of their hiring process, rather than just a cyclical response. This result tends to support our recent research indicating that progress on the unemployment rate will be slower

than in past recoveries. However, this does not imply that nothing can be done about unemployment, as the job-finding rate would still improve with stronger growth in demand.

Turning to inflation, my projection continues to agree with the Tealbook that the disinflation process is most likely not yet finished. My staff has been looking into the growing distinction between the CPI and the PCE price index, and the results are not very reassuring. The core CPI has run 0.4 percentage point below the PCE over the last year. A little more than half of this difference is due to the prices of the nonmarket components included in the core PCE. It's interesting to note that the PCE median that the Dallas Fed reports looks much more like Cleveland's median CPI, because it deemphasizes the nonmarket components in the PCE that are running higher than most of the market components. This leaves me concerned that the ongoing disinflation process may be materially understated in the PCE inflation rates. On a more positive note, as Brian mentioned in his report, market measures of expected inflation have moved up during the intermeeting period, and break-even rates from TIPS show a similar pattern. The acceleration was particularly pronounced after the release of the FOMC minutes on October 12, which, I think, underscores the importance of our policy decision at this meeting.

In sum, the risks to my outlook for inflation and output remain to the downside. My projection for only moderate economic growth and very low levels of inflation leaves the economy susceptible to shocks. And I continue to be concerned that our options for responding to falling inflation are more limited than our options for responding to rising inflation. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. Reports on economic activity in the Fifth Federal Reserve District remained mixed in October, suggesting not much of a change in the

outlook on net from the previous report. The manufacturing index moved back into positive territory last month, with shipments, new orders, and employment all ticking up. Several individual manufacturers tell us that they are operating at or near capacity after having sharply reduced capacity in 2008 and 2009. And a few of these are indicating that they are nearing the point at which they will need to add workers. Our service sector survey remains a bit more downbeat; although the indexes have not deteriorated further, they remain in negative territory. We did see some improvement in shopper traffic in big-ticket items, however, and the responses to our expectations questions improved significantly last month as well. We continued to hear complaints about policy uncertainty, but uncertain demand prospects are also clearly a factor. We actually did hear a couple of contacts say they are hanging on until after the election, so, perhaps, some economically relevant uncertainty is dissipating as we speak. [Laughter]

The data on the national economy since the last meeting also suggest little change in the outlook. Consumer spending keeps advancing, perhaps as rapidly as can be expected, given the balance sheet repair that many households have undertaken. On the softer side, the rebound in manufacturing has clearly slowed, which could lead to questions about the sustainability of business investment. But I still think the fundamentals for business investment outside of structures look reasonably promising, particularly in the information processing category. On balance, I think the erosion in the outlook that occurred over the summer appears to have come to a halt, so my outlook hasn't changed much since September. I continue to expect slow economic growth, about 2 percent in the second half of this year, gradually rising to about 3½ percent by late next year, bringing the unemployment rate down to about 9 percent then.

The most striking macroeconomic development since the last meeting was that the general public has become fairly firmly convinced that we are going to initiate another program



of sizable asset purchases at this meeting. This has resulted in a dramatic fall in Treasury yields, as Brian Sack noted, and that has brought inflation compensation back up to a range that might be characterized as more towards the center of the range it has been in over the last five or six years.

Other news on the nominal front includes a pickup in nominal GDP growth to 4.4 percent year over year for the third quarter, from 3.9 percent the previous quarter. You cited nominal GDP growth at the last meeting, Mr. Chairman. And there has been a pickup in M2 growth to 8.3 percent over the last two months. So I think the overall inflation picture provides even less reason to ramp up stimulus right now than it did a month or two ago.

On the real side, the Tealbook estimates that a \$600 billion asset-purchase program will only make the unemployment rate 0.3 percentage point lower at the end of 2012. This is a strikingly small number, in my mind, and it makes the benefits of such a program look really small relative to the risks. But I'll wait until the policy round to talk about risks.

CHAIRMAN BERNANKE. Thank you. President Fisher.

MR. FISHER. When Bill English stands up, it's noticeable, because he's so tall.

[Laughter]

MR. ENGLISH. I'm sorry. [Laughter]

MR. FISHER. Even though you're kneeling now, you're taller than the rest of us.

[Laughter] Mr. Chairman, last Wednesday's *Wall Street Journal* quoted you describing the calibration of monetary policy as akin to putting. As a golfer—although, I must say, not as good as Governor Warsh or President Lockhart or President Plosser, but much better than President Evans [laughter]—

MR. EVANS. I'm very glad that's on the record. [Laughter]

MR. FISHER. —I rather like that analogy. The master putters, like Ben Crenshaw and Tiger Woods, are surely familiar with the equipment that they use. You talked about tapping. But as they prepare for a high-stakes tournament, they use their and their advisors' knowledge of the slope and the shape of the greens, whether it's Bermuda grass or Bentgrass or other varieties, even whether the cell structure of the grass is loose or tight, and how it changes and affects the roll of the ball as the weather changes during the day. And, incidentally, data are maintained on the putting surfaces of 16,000 golf courses in America by the Golf Superintendents Association. [Laughter] What these teams do, as we do, is model how these greens perform under different circumstances. But, in the end, the roll and the speed that the pros employ when they're actually approaching a putt depends on the real conditions at the time of play. And any of them will tell you that the key to successful putting is the ability to feel or read the green according to the conditions that prevail as they approach their putt.

In the first go-round of our meetings, I try to give you and the Committee a reading on the prevailing conditions as we approach a decision. All of us have forecasts based on FRB/US or some other model—I don't think I can add much there. Nor do I detect much tolerance for Texas bragging at this table—we created 41 percent of all the goods-producing jobs this year [laughter] and 26 percent of all nonagricultural jobs in America year to date. Therefore, I'll endeavor to give you a reading on the conditions on the greens, according to the experience of the CEOs and CFOs and market operators who are playing the course—you have the list of my 31 interlocutors for this meeting. For our new Governor, these are not just in my District; these are worldwide, though mostly in the United States. Here's a summary of what they report.

In general, my contacts report that more things are moving in the right direction than in the wrong direction. None speak of the double-dip risk in the United States, and none are

budgeting to deflation. Bottom lines are healthy, but top-line sales and demands are not moving enough to give satisfaction. Conditions are improving slightly, but continually, and are expected to continue to do so.

Based on data from the rails, shippers, express shippers, retailers, and the spending pulse data assembled by MasterCard through yesterday morning, none of which has been reported publicly yet, that activity picked up year over year in October and was slightly better than the year-over-year pace of September. They report October's year-over-year gain to be 2½ percent versus September's year-over-year gain of 1.3 percent. Looking forward, one who doesn't mind his name being quoted, Fred Smith of Federal Express, expects domestic Christmas season sales to record a year-over-year improvement of between 2½ to 3 percent. And, by the way, parents among you will be pleased that the nation's largest candy retailer, Walmart, reported an 8 percent pickup year over year in sales for the holiday season, so we can expect at least the dental profession will have a jump in fillings.

Our contacts report price pressures for a range of commodities—from corn and higher-grade food oils to cotton to pulp and, of course, metals and gold used in manufacturing, including semiconductors—nothing that we don't already know from reading the financial press. But I did find it of interest that one of my CEO contacts, who had just come back from meeting with all 450 of his Chinese suppliers, reported that the Chinese government was encouraging wage increases of 15 to 20 percent to boost domestic spending and putting that into their five-year plan. Combining wage imperatives with commodity price increases, the manufacturers of low-tech Chinese products—from wicker to clothing to the lower end of the entertainment machines that this particular customer buys—have started their bids for supplying the fall of 2011 with requests for 30 percent increases from the current level. Alternative production sites,

like Vietnam and India, according to the source, were only slightly underbidding those numbers, which may mean a shift to sourcing low-value-added goods back to Mexico or a squeeze on profit margins from those sourcing from China, Vietnam, and India. No one I talked to feels that currently they have pricing wherewithal to pass on these cost increases of more than, say 2 percent, and yet none of my interlocutors feel that inflation is likely to drift downward.

This is in keeping, incidentally, with our trimmed mean calculation at the Dallas Fed. Several of you have been nice enough to mention it; let me just correct the misimpression. The trimmed mean PCE inflation rate actually tells a different story from that told by the core PCE. The trimmed mean came in at a 1.0 annualized rate in September, compared with an annualized rate of 1.3 percent in August. The numbers for those two months are both above the rates we saw early in 2010, and the 12-month trimmed mean rate has been steady over the last six months, within 0.1 percentage point of 1 percent, and actually precisely 1 percent for the past three months. If the trimmed mean is a better gauge of the underlying trend in PCE inflation—of course, believing in Texas exceptionalism, we believe it is—then it's not too surprising that the core PCE should be moving down towards the lower and steadier trimmed mean rate. The message the trimmed mean is sending is consistent with the bottom line we've drawn in the past couple of inflation updates. The underlying trend in inflation appears for the time being to be holding steady, albeit at a rate typical of the 1950s rather than at the rate we've become accustomed to since then.

Without pricing power and in the face of anemic demand, all of my nonfinancial business contacts, large and small, public and private, continue to protect their margins through productivity enhancement and to take advantage of ready access to cheap money to refinance their balance sheets, pay dividends, or buy their stock if they are public. Some of the larger ones

report borrowing domestically in size and warehousing those funds so as to avoid having to repatriate funds building up abroad. A few—and this is good news—are using cheap money to refinance their remaining pension obligations in light of unsustainable discount factors used for accounting purposes.

Almost all the businesses I talked to are expanding investment in productivity enhancement. Even Wal-Mart plans to open more stores in the U.S., but at the same time plans to reduce, for the second year in a row, its number of U.S. employees. As I've reported before, almost all the large companies I talked to report little interest in hiring American workers or committing to large-scale cap-ex here. They believe that their potential for ROI is greater elsewhere. The smaller companies that do not have global options are not hiring until the coast is clear on the tax and regulatory fronts, as we've heard for some time at this table. This hesitancy intensified during the final innings of the election season, and your guess is as good as mine as to whether this will be relieved by the new Congress or compounded by it.

Nonfinancial and financial companies alike report that they are flush with liquidity. Bankers are aggressively courting the larger corporate credits. Several reported to me that, in the last few weeks, the Big Four have “literally been begging us to lend money for 10 years at less than 3 percent.” Corporate debt markets are robust, including junk markets. Smaller companies are not complaining about a lack of access to capital. As a special part of our monthly Texas manufacturing survey, I had our staff ask questions of 240 companies about credit availability. Only 10.9 percent of the 60 percent who were seeking credit responded that they were having substantial or extreme difficulty obtaining financing for long-term expenditures, and only 6.3 percent of the 55 percent that were seeking short-term credit—let me repeat that only 55 percent were seeking short-term credit—responded that they were having substantial or

extreme difficulty. To be sure, this is specific to the 11th District, but you may have noted in the ISI Group report of October 26 on the various Federal Reserve Bank surveys that the Dallas Fed's business activity index has the highest correlation of all to the PMI, so our survey may have some credence.

It concerns me, Mr. Chairman, that liquidity is so omnipresent on bank and corporate balance sheets, and yet is not being put to work to hire American workers. Last week's Lipper data show year-to-date portfolio flows into virtually all asset classes except money market funds. The flow is strong into every category from high-risk to low-risk bond vehicles, taxable, nontaxable, domestic, and external, fixed and floating rate, and, of course, commodities. Junk yields are at their lowest level since October of 2007. Margin debt remains shy of the 2007 highs, but is fast approaching levels that prevailed before the Nasdaq implosion in 2001. And margin account debit balances, as a percentage of market capitalization, now exceed the pre-crash levels of 1987 and 2001. And the LBO market is back to paying 2006 multiples of EBITDA, between 6 and 8½ times. The recent announcement of Carlyle's purchase of Syniverse, at 10 times, echoes the peak of the pre-crash craze. As you know, buyout people do not typically buy companies with a plan to expand their workforce, but rather they plan to tighten operations, drive productivity, rejigger balance sheets, and provide an attractive payback in a shorter term than normal corporate horizons. And those corporations I have talked to that are eyeing possible acquisitions with their surplus cash and ready access to credit markets, are not given to thinking of strategic acquisitions as a way to expand payrolls. In sum, Mr. Chairman, and to kill the golf analogy, the greens are playing very fast. We need to be very careful in how we calibrate our next putt, lest we overdo it and roll right off the green into a trap. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. I notice you're discussing golf and not baseball. [Laughter]

MR. FISHER. On that subject—

MR. MOORE. Be patient, Mr. Chairman. Be patient. [Laughter]

MR. FISHER. Our Vice Chairman owes me a beer, and I owe several cases of beer to the First Vice President of the San Francisco Fed. [Laughter]

MR. MOORE. We'll defer that until later, then.

CHAIRMAN BERNANKE. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. The Eighth District economy appears to be expanding at a slow pace. Business contacts tend to be mildly optimistic concerning prospects for the holiday season and for 2011. The District unemployment rate, calculated based on 18 metropolitan statistical areas, is 9.1 percent according to the most recent data, somewhat below the national rate. The foreclosure rate is about 1 percentage point lower in the Eighth District compared with the nation as a whole, according to data from lender processing services. The delinquency rate, however, is about the same as the national rate. District employment growth has lagged a bit behind the national employment growth rate according to the most recent readings. Larger District businesses continue to report strong sales revenue and profitability. They remain reluctant to add to payrolls. Expansion plans are often centered in Asia, which, according to these contacts, continues to boom. A large District car rental company reports brisk sales and the clear return of the business traveler. For smaller businesses, however, the outlook is more mixed. District agribusiness income is expected to be very strong this year.

For the U.S. as a whole, it appears that prospects for a return to recession, never all that high, have diminished in recent weeks. I envision the pace of expansion increasing through the remainder of 2010 and through 2011. Any macroeconomic forecast, however, is clouded by

uncertainty, and we policymakers have to be prepared to respond should actual events deviate from the expected path.

I expect labor markets will continue to lag, as they did following the 1990–1991 recession and again following the 2001 recession. It seems likely that there was a structural break in U.S. labor market dynamics sometime in the 1980s. Before the break, labor markets recovered relatively rapidly following recessions. But since that time, labor market recovery has been much slower and more tenuous following recessions. Understanding the nature of this structural break is an important area for research in the Federal Reserve System.

Globally, booming Asia continues to be the most important factor. A slowdown or mismanagement there could have significant implications for the U.S. and for Europe. A possibly weaker Japanese economy is also a risk. In Europe, I see the sovereign debt crisis continuing to play out during the next two years, as countries try to establish credibility in international markets for their fiscal retrenchment programs. I see the ECB as unlikely to match a U.S. quantitative easing program.

I think the likely return of asset purchases here in the U.S. has largely been priced into markets already. During the fall, 5- and 10-year TIPS break-even inflation expectations moved up fairly sharply. As Brian Sack pointed out, as a result, real yields at the 5-year horizon declined by as much as 50 basis points. Under most conventional macroeconomic theory, this is an appropriate stabilization policy. Other effects of the policy have been entirely conventional as well, with equity market valuations rising and the dollar depreciating during the intermeeting period. Because these price movements have already occurred, I do not expect significant movements in response to any announcement we may make tomorrow.



I have argued that the FOMC's near-zero interest rate policy, by itself, is insufficient to keep the U.S. economy out of trouble. This is because zero rates are also consistent with expectations of a permanent, mild deflation, such as the one experienced in Japan over the last decade. Movement toward a regime like that would exacerbate problems in the U.S. housing sector, where nominal contracting based on expectations of approximately 2 percent inflation is the norm. One way to avoid such an outcome is to supplement the near-zero interest rate policy with another program, a quantitative easing program. Such a program needs to be managed carefully, as it would possibly run out of control. However, I think that program can be very effective with the appropriate risk management. I see this as a better alternative than simply remaining at the near-zero federal funds rate target for several years, possibly allowing inflation and inflation expectations to drift lower and lower, as they have during much of 2010, according to many 12-month inflation measures and according to the TIPS measures of inflation expectations.

I remain opposed to “shock and awe” approaches to monetary policy. I see little purpose in naming large numbers in order to impact financial markets on a particular day. One can always surprise markets by taking an unexpected action, but this has very little to do with the effectiveness or the degree of optimality of the policy. The policy is the entire expected sequence of actions that the Committee intends to take in response to the state of the economy and to the shocks encountered by the economy. An action on a particular day is not a policy in this sense. Unusual, large, unexpected actions tend to confuse the issue, because they set up expectations of similar unusual, large, unexpected actions in the future. This dynamic is destabilizing and counterproductive. This is why I have tried to advocate something much closer to the way we have successfully implemented interest rate targeting policy over the last

25 years—small moves, which then set up expectations of future moves contingent on the behavior of the economy. I hope we can make progress towards this type of policy at this meeting. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. It is 3:30. Coffee's ready. Debbie, is that right?

MS. DANKER. Yes.

CHAIRMAN BERNANKE. Let's take 20 minutes for a break.

[Coffee break]

CHAIRMAN BERNANKE. I guess we'll get going. President Evans.

MR. EVANS. Thank you, Mr. Chairman. I should forgo trying to defend my golf game, because it shares the same property as Warren Buffett's jet—it's indefensible. [Laughter]

My economic outlook has not changed appreciably. I see the U.S. economy as mired in a liquidity trap of immense proportions. Nothing from my business and community reports contradicts this view. There were two virtually unanimous themes I heard from businesspeople. First, earnings are good, but they are driven almost entirely by bottom-line cost-cutting, not top-line growth. Second, I am viewed almost as impertinent when I ask about future hiring plans—no business, large or small, reported any meaningful hiring plans at any relevant horizon. Although the recovery continues, it is weak, and there are currently no clear indicators of building forward momentum. The single most important factor in my projections for firmer growth in 2011 and beyond is the sheer inevitability of such a recovery. After all, how much longer can the economy run with pent-up demands going unfulfilled and only replacement demands being met?

But to achieve stronger growth, we need to see more from the consumer. One manufacturer articulated the mood perfectly when he asked, “How much longer can my business and industrial segment continue to grow three times faster than consumer demand?” As I sort through the impediments facing the economy, this type of real-world business observation seems exactly right in putting more weight on inadequate aggregate demand than on regulation, unusual labor market frictions, or other such factors.

In the balance of my remarks I’d like to focus on the inflation situation, and I want to do this in the spirit of a policy viewpoint that puts primary weight on our price stability mandate; that is, I want to try to channel the views of what Mervyn King has called a quasi-inflation nutter. Such a person would say that the Fed has a dual mandate to promote maximum sustainable growth and price stability but sees achieving price stability—reasonably low and stable inflation—as the best way of ensuring maximum sustainable growth. This rhetoric has often seemed quite reasonable during a variety of periods when I’ve been observing the FOMC in action.

Within this context, I want to make three points. First, I take it as given that monetary policy is fully responsible for the trajectory of inflation—inflation is a monetary phenomenon. We are accountable for whether inflation is too high or too low or just right. Most of us have indicated that “just right” is somewhere in the neighborhood of 2 percent. So inflation of 3 or 4 percent would be a monetary policy failure that monetary policy would have to respond to. And inflation of 1 percent, even if it’s stable, also would be a failure that monetary policy would have to respond to.

Second, my outlook is for continued low inflation, low enough that monetary policy has an obligation to address it. The Tealbook forecast of core PCE inflation of 1 percent for 2012 is

highly credible, in my opinion. I know this is a controversial statement for some, but indicators of future inflationary pressures must put a heavy weight on resource slack. I just don't see any alternative credible explanations for our recent experience. Consider that, back in October 2007, the central tendency of our projections for core PCE inflation in 2010—that is, this year—was 1.6 to 1.9 percent. Today we expect 2010 inflation to come in substantially lower, at about 1 percent. What has happened since those 2007 projections were constructed? The federal funds rate has been slashed from over 4 percent to 0. Everything else equal, doesn't that lead to greater inflationary pressures, not lower? Our monetary base and our balance sheet have exploded in an unprecedented and unexpected way. Doesn't that, too, lead to greater inflationary pressures, not lower? To me, it seems inescapable that the real reason we have experienced lower inflation is that we have suffered through a financial crisis, and a great recession, with an unemployment rate that is still 9.6 percent. With substantial resource slack persisting into the future, inflation is very likely to be too low for too long. And, remember, that inflation projection must be a result of our monetary policy—inflation is a monetary phenomenon, as I said in my first point.

Third, even in the role of a quasi-inflation nutter, I can argue that the current low-inflation outlook is detrimental to supporting sustainable economic growth. This is an argument that President Rosengren made earlier. I take this view in part because I take our inflation objective to be 2 percent—that's what most of us have said, and that's, at least, what the public has expected, judging by most measures of inflation expectations. When inflation is lower than households and businesses previously expected, ex post real interest rates are higher. This contributes to restrictive financial conditions that impede growth. For example, there is a large and wide spectrum of fixed-rate consumer debt that was undertaken with an expectation of inflation rates higher than 1 percent. Those payments have a higher real burden now, implying a

higher probability of default, and default and bankruptcy have real costs. Of course, there are other channels by which having an inflation path closer to our perceived objective would be beneficial for economic growth. So, again, 2012 core PCE inflation of 1 to 1¼ percent, no matter how stable, ranks as monetary policy falling down on the job.

Finally, I'd like to make a couple of points on the problems caused by our lack of a shared understanding of our goals. It is our job to argue over inflation projections. I have my perspective, and others have their views. We argue to get better policy decisions, and that's a virtue. But we likely also disagree over the objectives for inflation—that's one reason that, when President Plosser was talking, I thought I heard something, and I wanted to make sure if I did. If some of us say 2 percent but others say 1 percent, or 1½ percent, we have a consistency problem; it's not wrong, it's just confusing. Here's an example. If we're on a road trip from here to the West Coast, it's one thing to question what the last several exit signs actually said about whether we're on course or not. But if some on the bus think we're headed for L.A. and others think Seattle, we sound incompetent and lose a great deal of credibility. I don't get on a bus if I think the driver doesn't know where we're going.

Unless we can anchor the Committee's understanding of what monetary policy is seeking to accomplish, I don't understand how we can do our jobs, when we are surely not being transparent. Now, apparently, almost all foreign central banks think like this. I asked my staff to review the attendee list at this year's Jackson Hole conference—Tom has expanded the number of central banks that attend by quite a lot this past year. My staff says that, of the ones we could track down—and we couldn't find Malawi and a couple of others—only two banks failed to have an explicit numerical guideline for their nominal responsibilities, either for inflation or an

exchange rate peg. Those central banks are the Federal Reserve and the Bank of Japan—and I'm troubled by that. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. First Vice President Moore.

MR. MOORE. Thank you, Mr. Chairman. When the staff was briefing me late last week for this meeting, they mentioned to me that it might be appropriate to say something about the World Series, or, if not, to do something related to Halloween. Thank goodness the Giants gave me some good results to work with, because I'm not sure how well my Lady Gaga costume would have gone over with this particular crowd. [Laughter] I'll say something about the Giants in a while. By the way, I asked our research director if everything goes into the transcript, and he told me that certain things could be redacted, if necessary. [Laughter]

The evidence from our contacts in the Twelfth District is consistent with a weak recovery. The District has been struggling to climb out of a very deep hole, and the pace of expansion has been disappointingly slow. Following modest gains during the first half of the year, private payrolls contracted in the third quarter. Our retail sector contacts report disappointing back-to-school numbers. Households in the Twelfth District are burdened with poor balance sheets, caused in part by the decline in home values, which have fallen as much as 40 to 60 percent in the hardest-hit areas. The technology sector has been one of the few bright spots. District IT manufacturing and service firms have been creating jobs at a healthy clip in response to sustained demand growth. But even this sector has shown signs of slowing recently. Our contacts in this sector expect further slowing over the balance of the year, as the hardware industry's inventory replacement phase comes to an end.

My views on the national outlook are generally similar to those of the Tealbook. I expect a gradual recovery held back by households working to repair balance sheets badly weakened by

equity and housing losses and the slow normalization of financial intermediation. Still, monetary stimulus and improvements in banking and financial market conditions should push economic growth somewhat above its potential rate in the next few years and slowly bring unemployment down. Nonetheless, I am struck by the fact that, in the Tealbook forecast, even with an additional \$600 billion of Treasury purchases, we won't get back to full employment until 2015.

Although my point forecast is for steady improvement in the economy, I admit that the subpar economic growth during the past two quarters has shaken my confidence. One source of greater uncertainty going forward is the degree to which the banking sector will suffer further damage from past mortgage securitization activities. While lax processes around foreclosures pose some risk, even more concerning is the growing trend of put-backs of poorly performing portfolios from investors to banks. Although recent declines in the stock market value of some of the large banks most affected by these problems suggest that the market sees the risks as manageable, some worst-case estimates present substantial problems for these institutions, which could damage financial conditions and set back the recovery.

Turning to inflation, I expect significant slack in labor and goods markets to keep PCE price inflation around 1 percent for the next few years, but well-anchored inflation expectations should help avoid significant further disinflation. Of course, if the economy can't shift into a little higher gear than the 2 percent growth we've been seeing, I worry that further disinflation could lie ahead.

I close with one reason to be optimistic. The San Francisco research team has studied what happens to the U.S. economy based on which franchise wins the World Series. The results are rather startling. The average growth in real GDP has been 10.2 percent in the year following each World Series won by the Giants. [Laughter] The staff tells me that the relationship is

statistically significant, and they point out that the slowest growth in the year following a Giants win was still a robust 6 percent. Now, not knowing for certain how the Series would turn out when presented with these data last week, I asked the staff what the effects of a Rangers win would be. I was told there was—how do I put this?—insufficient data—[laughter]—to conduct such an analysis. Thank you.

CHAIRMAN BERNANKE. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. Uncertainty remains a dominant problem, if not the dominant problem, in the recovery. Uncertainty was a key factor in our conversations with local business contacts about hiring, for example. It is true that both large and small businesses in the Ninth District report doing significantly better in 2010 relative to 2009. As one contact put it, “as long as you’re not in construction, you’re doing great.” One consistent theme was that sales are up some relative to 2009, but profits are up by considerably more, and this local story is borne out in the national data. Basically, firms have experienced sharp declines in unit labor costs. Nonetheless, relatively few firms in the Ninth District are looking to expand their workforces greatly.

This then raises the question: Why aren’t firms willing to hire more workers, given that they are making so much more money per worker than they did a year ago? They are uncertain about the sustainability of their current high profits. Their uncertainty stems from at least two sources. First, they see a significant risk that demand for their product might fall. Second, they believe that the large federal deficit in the United States could well lead to higher taxes on labor and capital. If they did make new hires, and a sufficiently large fall in profits materialized, they would then have to fire the newly hired workers, and they found that process to be a painful one



in 2009. Basically, they see the possibility of firing costly enough to offset the current profits from hiring.

At the national level, asset prices reveal that uncertainty seems to be retarding investment and consumption. Over the intermeeting period, the spread between 5-year TIPS and 5-year nominal Treasuries widened, and this increase in the spread is a welcome indication that inflation expectations, or at least inflation risk, shifted upward in the wake of the last FOMC meeting. But the levels of both nominal and real yields seem shockingly low to me. The real yield on 5-year TIPS bonds has basically fallen to around minus 50 basis points. The real yield on 10-year TIPS bonds is below positive 50 basis points. These low yields strike me as being indicative of risk aversion, and large amounts of it. On the margin, banks perceive these low real yields to be better than risk-adjusted returns on new loans of similar horizons. Firms perceive these low real yields to be better than the risk-adjusted return on new investments of similar horizons, and hiring would be one such investment. Consumers are willing to save at these lower yields, because they foresee the possibility of adverse income shocks affecting them at some point in the future, combined, probably, with an inability to borrow to insulate themselves against those shocks.

Others have been willing to talk about policy in this round, so I'll talk a little bit about policy myself. What can monetary policy do to alleviate these uncertainties? At a minimum, it seems that monetary policy should do its best not to add to the high degree of policy uncertainty that exists already. And I worry that the options that have been presented to us by the staff don't really fulfill that objective. It is, as President Bullard has emphasized to us, desirable to have conditionality in policy, but it is also critical to convey more about the policy reaction function than is currently being done in the alternatives.

I'll mention two scenarios we could face in six months' time, or maybe a little later, say, in June of next year. In one scenario, the good scenario, employment has grown by 1 to 1½ percent by next June, so something like between 1.3 million and 2 million jobs have been created. And inflation has risen—maybe it's running about 1.3 percent over the first half of next year. In that good scenario, inflation will still be low relative to desired levels, at least the desired levels of some around the table. And unemployment will still be well above our mandate-consistent levels, again, in the view of some around the table. The bad scenario is that unemployment next June is at 10½ percent, and inflation has softened further to around 0.8 percent.

I think we should achieve clarity among ourselves as best we can about what we would do in these two kinds of scenarios. Would we want to have further accommodation in the good scenario, or not? Would we want to have further accommodation in the bad scenario, or not? I think we have to talk through those things, and I think it would be good if the minutes were able to reflect something about what our conditionality is, even if we can't reflect it in the statement itself.

I'll close with one final dangerous comment—because it's somewhat ad hoc—on President Evans's quasi-inflation nutter perorations. Let's suppose we all agree that 2 percent is the inflation target. The question for us is: How can we even go about achieving that? Quantitative easing, according the Tealbook, Book A, provides about a 10 basis point increase in the inflation rate over a two-year period. This isn't getting us to 2 percent. So I think the question for us is not just whether we all agree on 1½ percent, or 2 percent, or whatever the number is. The question is: What are the tools we have available right now to get to that level? Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Mr. Chairman. Normally, I don't comment much about prospects in the New York region, but I did spend three days in upstate New York last week, so a few observations might be in order. First, there's no meaningful change in the debate between smaller businesses and bankers. Small businesses see the banks as continuing to constrain credit sharply. In contrast, the bankers view themselves as awash in liquidity, with large deposit inflows, plenty of funds to lend, and a willingness to do so. I'm not surprised by this. Given the current uncertain economic outlook, I'd expect us to be in a situation in which borrowers who are creditworthy don't want or need credit, but those who are less creditworthy do need funds but are unable to get them easily.

Second, the mood in upstate New York can be summed up in two words, and I think this probably applies more broadly: "hunker down." In other words, most businesspeople are waiting for others to move first. I take this as evidence that even a modest amount of additional stimulus could have outsized effects over the longer run by changing the dynamic from the current stasis to one in which additional demand growth led to employment gains that improve confidence. I think an improvement in confidence might cause businesses to loosen up a bit, and all of a sudden we'd be in a virtuous cycle. I also think that, in this respect, the models that we use don't really capture that kind of "tipping point" concept.

Third, we were received quite warmly, despite many questions about what we do and why we do it. The questions ranged from our unusual interventions during the crisis to understanding why some of us might think that another round of large-scale asset purchases might be in order. People generally do want to understand what we're trying to accomplish and the tools that we have available to do this. Therefore, to the extent that we can explain our goals

and actions clearly, I see this as helpful in boosting confidence and in supporting our own credibility.

Fourth, among the community bankers, there was considerable angst about profitability, both from the forthcoming regulatory burden of the Dodd-Frank Act and from the effect of an extended period of low short-term rates on net interest margins. My view is that we need to be smart about how the Dodd-Frank Act is implemented; in particular, we don't want to inadvertently create a competitive advantage for larger banks that might have scale economies in dealing with that increased regulation. On the issue of the low level of short-term rates and the effect on bank profitability, I think the answer here is to do all we can to get the economy moving, so that the low level of short-term rates does not extend beyond the next year or two.

In terms of the national outlook, I don't see much change from the last meeting. The economy is currently on a growth trajectory of about 2 percent, which is not sufficient to generate enough employment growth to push down the unemployment rate, and I think that's really the key to boosting consumer and business confidence and generally a more favorable dynamic for the overall economy. Some data were a bit stronger—in particular, the consumption data and the durable goods orders data. But against that were more disappointing things, like the trade performance and the renewed weakness in home prices and uncertainty about how the foreclosure problems will be resolved. A double dip still seems unlikely to me, and the Federal Reserve Bank of New York forecast continues to anticipate that the economy will gradually strengthen in 2011 and 2012. But, to my mind, the economy remains vulnerable to negative shocks at a time that we're not that far from outright deflation. So, despite an okay baseline view—in the sense that the economy is going to grow faster—I think the case for further

monetary policy stimulus, implemented with care, especially on the communications side, seems compelling.

Finally, I have a few thoughts on financial stability. There really do remain a number of important issues outstanding for some major U.S. financial institutions. For several, there are significant housing-related issues—the poor documentation standards accompanying foreclosure filings and the potential for private-label security holders to put back to the issuers mortgages that do not comply with the warranties of the original securitizations. At this juncture, the put-back issue appears to be potentially more serious because of uncertainty about how the state courts will rule on these matters—in other words, how significant must the error be to allow the mortgage or security to be put back to the original mortgage issuer—and because there's a potentially large magnitude of dollars involved. Although the put-back issue will undoubtedly take many years to resolve, there's a risk that an adverse judicial decision for the mortgage originator could pull the time frame forward and lead to renewed safety-and-soundness concerns for those institutions that securitized a large amount of private-label mortgages.

A second issue is the risk that the combination of bank holding companies with poor earnings and the diminution of government support as a result of the Dodd-Frank Act could lead to downgrades in credit ratings—I've talked about this in the past. If this occurred, there could even be funding issues for certain institutions. For now, the rating agencies appear to be patient, but this situation could change during the first half of next year, especially if lackluster earnings persist, which then leads to questions about the sustainability of individual firms' business models.

Third, I think market participants may be a bit too sanguine about the effects of the Volcker rule implementation on bank profitability. The major banks are trying to define the

Volcker rule very narrowly as only pure proprietary trading. But the intent of the legislation suggests a wider application, and that could have more far-reaching effects for banks' trading businesses, and I'm not sure this is fully incorporated in market prices or market expectations.

Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Yellen.

MS. YELLEN. Thank you, Mr. Chairman. The data we've received during the intermeeting period reinforced my view that the path to recovery will involve a long, slow slog. I expect unemployment to remain elevated for years to come, and inflation, as far as my eye can see, to run below the 2 percent level I consider most consistent with the Committee's dual mandate. The reports from our business contacts strike me as consistent with such a forecast. Outside of housing, where conditions are dismal, they describe an economy that is growing, but only at a snail's pace. Businesses remain focused on productivity. They are reluctant to hire and invest. They have little pricing power.

The heartening news during the intermeeting period is that financial conditions have eased meaningfully, as markets have become increasingly convinced we intend to resume our LSAP program. Market views on the odds and magnitude of such a program have shifted back and forth over the past several weeks, and that has provided us with real-time readings pertaining to its likely impacts on longer-term yields, equity prices, and the dollar. And, thankfully, the implied policy multipliers look to be nontrivial and in line with earlier staff estimates.

The forecast I prepared for this meeting assumes that the FOMC will ultimately ratify the expectations concerning LSAPs that are currently embedded in markets. In contrast to the Tealbook baseline, I assume that we will ultimately add about \$1 trillion of Treasuries to our balance sheet, although any purchases beyond the \$600 billion initial tranche would be

contingent on future economic developments. My assumption about monetary policy involves a bit more accommodation than the Tealbook, but I still anticipate a path for GDP, unemployment, and inflation that is broadly similar to the Tealbook baseline. By the end of 2013, I foresee an unemployment rate around 7 percent, still meaningfully above my longer-run NAIRU estimate of around  $5\frac{1}{4}$  percent, and core inflation that is still in the vicinity of 1 percent.

With respect to risks to the forecast, I continue to judge the uncertainty attached to my projections as unusually high. An especially large source of uncertainty pertains to consumer spending. The Tealbook assumes that the personal saving rate will stabilize around  $5\frac{1}{4}$  percent, and a forecast along these lines appears roughly consistent with the life-cycle consumption equations relating spending and income and wealth. But I remain concerned that the process of balance sheet repair in the aftermath of the financial crisis could involve more significant deleveraging by households and a rise in the personal saving rate above the Tealbook baseline, resulting in outcomes like the weaker recovery alternative in the Tealbook. Household debt and ratios of debt service to income were exceptionally high at the outset of the financial crisis. They have declined over the last two years, thanks in part to defaults. But the household debt–income ratio is still well above historical norms. Many households now face borrowing constraints that are likely to impede their spending. And, along the lines that President Evans mentioned, debt is eroding less rapidly in real terms in the current low-inflation environment than it would if inflation were running closer to our target and to the inflation expectations that households had when they borrowed. Stated differently, many households that borrowed during the boom are now experiencing wage increases that are notably lower than they must have anticipated. The bottom line is that further deleveraging poses a real risk to the expansion, and this risk is exacerbated by very low inflation. In fairness, though, I think the risks relating to consumer

spending are two- and not one-sided. By now, there appears to be considerable pent-up demand for autos and other consumer durables, which could trigger more rapid growth in spending if the job market improves and uncertainty about future income abates, similar to the stronger recovery scenario.

The second factor that creates abnormally high risk to the outlook pertains to the financial system. It appears to be healing but remains highly vulnerable to shocks. We saw last spring how rapidly credit conditions could tighten when European sovereign debt concerns mounted, and renewed turmoil in connection with sovereign debt cannot be ruled out. As several of you noted, there remain risks associated with the large-scale put-back of mortgages to the banking sector, and the excellent financial stability memos prepared by the staff for this meeting highlight evidence of asset price bubbles in some markets. Abrupt shifts in global capital flows could trigger asset price movements posing risk to the financial system.

On the issue of risk skew, I see the risks pertaining to GDP growth as weighted asymmetrically to the downside and for an important reason. Monetary and fiscal policies in the United States and other advanced countries have ample latitude to respond if aggregate demand proves too robust, but little or no scope to respond to downside shocks.

Turning to inflation, my forecast is that it will remain in the vicinity of 1 percent for the duration of the forecast period. The data we have received during the intermeeting period confirm that core inflation remains extremely low, and disinflation has been broad-based. Incoming data reveal that wage trends are extremely subdued, and, even with some slowdown in productivity growth, unit labor costs are barely rising. My concern about the possibility of deflation is tempered by my belief, bolstered by survey evidence, that inflation expectations continue to be well anchored, creating an offset to the downward pressure on inflation resulting



from enormous slack in the labor market. But we cannot completely dismiss the risk that inflation expectations could follow actual inflation down in the years to come.

CHAIRMAN BERNANKE. Thank you. Governor Warsh.

MR. WARSH. Thank you, Mr. Chairman. Like many of you, I will start narrowly and then go broader. The report on economic activity in my neighborhood in Georgetown is strong. [Laughter] Also, President Dudley mentioned that he visited upstate New York, where I'm from, and he noted that the economy there appeared to be "hunkered down." That's not a near-term phenomenon—it's been going on for about 40 years. [Laughter] He also noted that the economy there was at a tipping point, and that is true, but the only way it ever tips is over. So, Governor Raskin, I did that just so you could see a contrast between Governor Yellen's formal, proper, prepared remarks and my more ad hoc remarks, and you can decide which one is your model.

I'll comment on three subjects: first, financial markets, which I think have changed most since we met in a meeting here last time; second, inflation; and third, the economy.

Since our last scheduled FOMC meeting, financial market prices have moved up, in large part, because of their expectations about all of us. I take that kind of move differently from one in which the market seemed to be responding to real data on either the global economy or the U.S. economy. Let me offer five takeaways from that. First, we should not be either surprised or particularly comforted that we can move asset prices around. Our communications have proved that we have the power to do that. That doesn't mean that the direction in which they're moving is good or bad, but I don't take a three- or four- or five-week summary and take immediate comfort.

Second, the Tealbook indicates significant benefits—over and above prior Tealbook versions—to the real economy from these policy-induced, intermeeting, “improvements” in foreign exchange, equity, and credit markets. Purportedly, these benefits come through wealth effects and, maybe most importantly, through export channels to the real economy. And the Tealbook expects these trends to continue with some force. I must admit to being uneasy about these trend lines going forward—I’m less certain of the resulting benefits, leery of the potential costs, and far less inclined to believe that these moves are necessarily persistent and durable. And with respect to the foreign exchange markets, it’s still not obvious to me whether these moves are, in fact, more dangerous than desirable over the medium term.

Third, the Tealbook does not extrapolate the recent increases in market prices for commodities into the future—instead, it follows the typical convention of tracking down quotes from futures markets and, as a result, has nonfuel commodity prices moving broadly down from these levels next year. This is a key assumption in the model. I’m skeptical that these recent increases in commodity prices are all to the good, that is, that they’re all helping nominal growth or helping the state of the U.S. economy, and I’m far less sure that the prices of these commodities will fall accordingly to the Tealbook estimates.

Fourth—the credit markets. The credit markets are flying. Brian accurately reported in his discussion at the beginning that spreads are compressing, new issuers who did not have access now do, the all-in cost of funding is falling fast, and the queues are lining up outside of Wall Street firms to access these markets. If you look at the high-yield market, you see new volumes, you see improved prices and improved terms. As a result, many businesses that, 6 or 12 months ago, I would have described as having broken capital structures and facing a bankruptcy process are now seeing those deals being delayed, deferred, or renegotiated; and

there are many sponsors of these in the corporate world and in the real estate world who could not be happier at the prospects of easier monetary policy. I haven't heard such positive reports about the credit market since early 2007, and that didn't seem to go so well.

Fifth—the stock market. It is, of course, good news that equity prices have moved up, but I'm less convinced of their durability if this achievement is mostly because of what we're doing here in the FOMC rather than because of what's going on in the real economy. To sum up, I take a less positive signal than the Tealbook does that what we've seen in the intermeeting period is as durable as we would need it to be to produce all the benefits to the real economy that the Tealbook suggests.

Let me turn to inflation. Recent measures of inflation look low and stable to me, and the recent trends for non-U.S. growth, oil, commodities, and the dollar, suggest to me pressures that will push prices higher in 2011 than the Tealbook suggests. The Tealbook has prices of core imports up 5 percent this quarter and projects that nonfuel commodity prices will increase at an annual rate of 30 percent this quarter—that is a move up of 20 percentage points above the prior Tealbook, a very notable change—and the Tealbook assumes that movements in the prices of energy and imports will only have minor implications for domestic inflation. That may be, but I'm less certain.

Let me make a second point on inflation, consistent with what some of you have already said. My dialogues with business leaders have turned markedly—that is, even with large pools of unemployed that are ostensibly keeping wage pressures low, nonwage costs are finally working their way through the system. The pass-through of commodity prices into final goods in consumer and industrial sectors is real, and it does impact my view of the inflation pressures in 2011. Moreover, anecdotes of increases in commercial and residential rents, increases in prices

for rental cars, increases in prices for airline fares, and increases in room rates across hotels is a more significant change from the providers and leaders in this industry than any that I've seen in my time at the Federal Reserve. It's true that those are just finding their way into the system now, and they could well be overwhelmed by what's happening on the wage side, but, again, I must admit to not being so sure. What's the driver of this change in rents? What's the driver of the change in airline prices? I would say it's mostly restricted supply. It's mostly no new buildings and shopping centers coming on line for reasons we've all discussed—very few new market entrants, considerably less competition in some of these businesses. So I believe that many of these costs will find their way into sales prices—but time will tell.

The third and final point on inflation, Mr. Chairman, is about inflation expectations. They've moved up, and they've moved around quite a bit, and I wouldn't be surprised if they moved up a bit more. Policy seems to be encouraging that, and, while some take comfort in that, I must say I measure that comfort with a little bit of concern as well.

Now let me turn to the economy. The U.S. economy continues to be mired in a sluggish recovery. The adjectives that many of you used are adjectives that I would use, but I would suggest that the ability of us around the table to have a material effect on that contour is overstated. Changes in fiscal, regulatory, and trade policies, which are long in the making and which have been unfriendly to economic growth for several years, are, I think, the most responsible party. And I do not expect the economy to turn durably in a more constructive direction until these other macroeconomic policies stop being so growth-defeating.

My own projections for economic growth and employment continue, for about the tenth meeting, to put me among the most pessimistic about near-term economic growth. Harm is being done to the supply side of the economy, and I share the staff's view that the NAIRU has

moved up. I don't know how permanent that will be—I think that's a function of what happens with these other policies, and I fear that potential GDP has really slipped.

The Fed is capable of a lot of things, but it's not capable, in my view, of moving the dial tremendously on economic growth from here. In that sense, it makes our current situation quite different from the situation when we were deeply involved in addressing the crisis, and the risk-reward tradeoff using nonstandard tools is different from when we use conventional policy.

Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Duke.

MS. DUKE. Thank you, Mr. Chairman. Banking conditions continue along a path of improving credit quality and weak demand for new loans. In the face of credit healing and expectations for us to purchase additional long-term assets, the focus of bank management has moved from the credit committee to the asset/liability management committee. Under the watchful eye of stern supervision and suffering from their own post-traumatic shock, bankers say they're unwilling to move further down the credit spectrum to generate loan volume or take on interest rate risk by loading up on longer-term assets. So their plans to improve interest margins center on repricing and reducing liabilities to make their balance sheet fit the available acceptable assets. I'm still trying to puzzle out how additional reserves are going to feed through the economy while bank balance sheet management is working in the opposite direction from their normal patterns and while loans and balance sheets are shrinking. I wonder if it's possible for money creation to work in reverse, and I wonder how depositors will react as deposit rates go to zero.

A banker pointed out to me recently that the credit metrics are improving faster than the overall economy and, specifically, than unemployment. The reasons given for this phenomenon,

I think, highlight changes beneath the surface in bank credit. The first reason involves the portfolio-replacement effect. Banks have now been underwriting new loans under tighter standards and with an eye toward negative economic conditions for nearly three years. Natural turnover rates in bank portfolios are actually fairly high, so, with the exception of construction and commercial real estate portfolios, newly underwritten loans are now a significant fraction of the total portfolio.

Next, bank customers are much more careful about debt. Customers and businesses are deleveraging, reducing their debt, and building precautionary balances. They're refinancing to restructure existing debt and to lock in low-rate financing, but they're not yet willing to use the available low-rate financing for new purchases or investment. However, the low rates are making existing debt burdens less onerous. Lower debt service is giving consumers more cash for spending, helping fragile small businesses hang on, and enabling property owners to cover debt service with reduced rents. But I would note the other side: Reduced interest income for others is now beginning to contribute to lower personal income. On balance, low rates may keep things from deteriorating again even if they don't give anyone incentives to add debt. Low rates are also helping to stabilize real estate prices, and stable prices reduce loss severities when loans are charged off. They change the incentives for homeowners to walk away or for commercial real estate sponsors to stop feeding their deals.

Finally, consumer loan defaults are driven by the newly unemployed. Once charged off, they don't reappear. So charge-offs track initial claims more than unemployment. Given the high level of long-term unemployed, a reduction in the unemployment rate caused by those people finding work would not necessarily improve existing credit, but it would be helpful to new loan demand.

My conclusion is that lowering longer-term rates will help banks repair credit portfolios and will help nonfinancial businesses and consumers repair their balance sheets, but, unless it makes a big difference getting people into jobs, it won't support new borrowing.

One last topic that I want to touch on is the foreclosure documentation issue. I talked pretty extensively at our last meeting about my belief that the enormous extended foreclosure pipeline would stifle the housing market recovery for years. The problems in individual foreclosure documentation and the issues raised about establishing the chain of title for securitized mortgages will only delay recovery further. I believe it's absolutely critical to investigate fully and understand all the different documentation problems and to find ways to solve them in a timely manner. We must move forward in clearing the market without allowing homeowners to be foreclosed upon improperly. "Improperly," in my mind, means not foreclosing on those who are still making their payments. One large servicer reported that loans going to final foreclosure have, on average, not had a payment for 560 days. In nonjudicial foreclosure states, 80 percent have not made a payment in more than one year; 30 percent have not paid in two years. The number is even worse in judicial foreclosure states, where 95 percent have not made a payment in more than one year and 45 percent have not made a payment in more than two years. Vacant properties create real problems for neighborhoods, and different servicers estimated that between 30 and 40 percent of the properties currently in the foreclosure pipeline are vacant.

To the extent that the problems involve state-established legal processes, they'll need to be resolved under state law. To the extent that the issues go to the problem of ignoring differences in state law when establishing a national credit market, it will be important to address

the resolution of the specific problems, but even more important to consider those differences in state laws regarding mortgage finance and securitization in the future.

Finally, these problems have highlighted the operational risk and realistic staffing requirements for the mortgage business. Elevated spreads between retail mortgage rates and MBS yields demonstrate how reduced origination capacity keeps the lowest rates on MBS from feeding through to actual mortgage rates. Origination of full-documentation mortgages takes about twice the time of low-documentation mortgages, and, as more quality control problems surface, processing is likely to take even longer. The crisis has shown servicers to be woefully understaffed and behind the curve throughout the cycle, so servicing costs will likely change dramatically.

I bring this up to highlight that, in addition to solving for the role of government in housing finance, the proper alignment of risks in the securitization process, the appropriate form and content of disclosure to consumers, the data necessary to track mortgage performance, and the rights and priorities of lien holders, we need to be sure that the process is adequately and appropriately staffed through the mortgage life cycle. All of these requirements will put a floor on mortgage rates, a floor that I suspect we're already approaching. We continue to talk about financial markets being healed, but I do not view the mortgage or the MBS market to be anywhere close to healed. The mortgage market represents a substantial fraction of the long-term debt market, but dysfunctions in this market go well beyond those that can be addressed through monetary policy.

Finally, because of my concern about the foreclosure impact, I've taken any recovery of residential investment for 2011 and 2012 out of my forecast, which results in a reduction of



about ½ percentage point in the economic growth rates in the Tealbook for each year. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. There's been no significant change in my outlook since the September meeting, and, actually, there was no significant change between the August meeting and the September meeting. That's not really good news for the economy insofar as my outlook is, I think, at the very bottom of everybody's projections, but you might have thought it was good news for you, at least, because I wouldn't have anything more to say. [Laughter] No such luck.

What I've been thinking about the last few weeks was actually prompted by some discussions that I had with some of my counterparts from foreign central banks during the Bank/Fund meetings a few weeks ago. The discussions started on the topics of a double-dip recession and deflation, but they gravitated fairly quickly to considering the potential outcomes in industrial economies, such as the continental European economies and the U.S., if they face an extended period of very tepid growth, that is, growth at or slightly below trend. In particular, the discussion focused on the degree to which such a period of growth could have some self-replicating characteristics, thereby producing some losses that would not necessarily be apparent just from extrapolation of a growth rate like that over time.

So I asked myself: Well, what are the prospects for growth? And every single one of you is somewhat more optimistic than I am, though not a whole lot more. There may well be some momentum building up over time simply because things will get better after a period of time when they stop getting worse, and it's for that reason that I actually have a little bit of upside risk on my own otherwise gloomy forecast.

I also did try to look systematically at what are arguably leading economic indicators. And I looked not just at those formally noted by the Conference Board, but also at other indicators drawn from the data that people here aggregate for us—both objective ones, like housing permits and capital goods orders, and subjective ones, like consumer confidence and business sentiment. Most, although not all, of those pieces of information are positive; most, although not all, are only mildly so, particularly considering the low baseline against which even positive data are being measured. And I certainly didn't see a case for a pattern suggesting an acceleration of growth. So it seemed to me not unreasonable to hypothesize that a relatively tepid pace of growth continues for some period of time. Clearly, the handoff from one stage of recovery to another hasn't been smooth. The period late last year and early this year of stimulus, inventory replenishing, and relief that the cataclysm had been avoided, has not led smoothly to a more self-sustaining growth supported by consumer demand. That fact, too, seemed to me to reinforce the prospects for quite contained levels of economic growth going forward.

What do I worry about under those circumstances? Well, first, we're clearly in a liquidity bog, if not a liquidity trap. And in the absence of an increase in aggregate demand, there doesn't seem to be any real prospect of pulling ourselves out of that mire. Second—and Eric alluded to this—at some point we're likely to see some hysteresis effects taking hold in the labor market. While I think that, to date, the evidence is fairly limited on whether skills mismatches have led to increasing structural unemployment, a high enough level of long-term unemployment will almost surely produce just such a result over time. Third, while we know that firms are adding very little additional productive capacity in the face of weak demand, they may also be taking capacity off line or allowing their ability to increase production quickly to atrophy. This phenomenon is probably the hardest of the three to document, in large part

because we simply don't have data on capacity in the 80 percent or so of our economy that's not industrial. But one suspects, or at least I suspect, that some of the firms that have been able to maintain rising profits in the face of sluggish sales have done so not just through increased efficiencies, but also through cost reductions effected by de facto capacity reductions.

Now, each of these three factors would surely be reduced by sustained increases in aggregate demand, but, again, in the absence of prospects for increased employment, it's hard for me to see where that aggregate demand comes from. So I think it's not inconceivable that we're facing a recovery even slower than the modest pace expected in the aftermath of a recession induced by a financial crisis, even slower than that reflected in the Tealbook, and even slower than the central tendency of our own forecast for this quarter. But worse still, the economy could see a greater increase in the NAIRU and a lower level of potential growth because of the kinds of effects I mentioned a moment ago. In that case, there would be a longer lasting impact of the slower period of growth, one that would stretch out for years even beyond those that we now anticipate. So, in short, my concern is that a reluctance to provide further stimulus on the grounds that structural constraints limit growth at present could itself become a self-fulfilling prophecy. That kind of thought is overhanging my forecast, and it's also the way that I'll be thinking about policy tomorrow. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Raskin.

MS. RASKIN. Thank you, Mr. Chairman. My projections are roughly consistent with those described in the Tealbook. The economic recovery remains quite gradual. Aggregate demand remains inadequate, and I'll underscore two ways in which I believe this is manifest. First, weakness of aggregate demand is reflected in the fading effects of the federal stimulus spending and the fact that local and state governments are shedding tens of thousands of

employees. In particular, in the state and local sector, budget pressures are projected to ease only slowly, as any expected rise in tax collections from the recovering economy are partially offset by the unwinding of the federal stimulus grants. So real spending in this sector is anticipated to increase only about ½ percent next year and 1¼ percent in 2012. Further weakness is evident in the housing sector. The level of housing prices is down by roughly 1 percent since August. Housing demand remains weak, and foreclosure volumes are sizable. Anecdotally, the slowdown in home sales now exacerbated by foreclosure documentation issues impinges on labor mobility; in other words, people's ability to move to new cities to look for jobs is being hampered, exacerbating unemployment issues.

In sum, the latest growth numbers for GDP of 2 percent cannot produce the demand needed to reduce our 9.6 percent unemployment rate. Indeed, the unemployment rate is not expected to fall below 9 percent until 2012, and inflation remains below levels that are consistent with the FOMC's objectives for quite a bit longer. Being this far from the dual mandate goals presents problems. If high unemployment continues, our country risks losing human capital, as the skills of the unemployed erode, and this very low inflation could heighten the risk that adverse shocks could lead to deflation and a protracted period of extremely poor economic performance. Thanks.

CHAIRMAN BERNANKE. Thank you, and thank you all, as always, for interesting comments. Let me try to summarize very briefly, with the caveat that views seem somewhat more dispersed this time, and, therefore, I may not be able to capture everybody's nuances.

Generally speaking, the contours of the outlook look pretty similar to what people were seeing in September, although obviously the views represent a downgrade from the June projections. The recovery is continuing, but it was characterized by a variety of unappetizing

adjectives, including “lackluster,” “disappointing,” “slow,” and “moderate.” An increased rate of economic growth in 2011 is generally expected, but there are significant headwinds, including credit restrictions, especially to SMEs; the need for deleveraging by households; continued severe weakness in housing and commercial real estate; the end of the inventory cycle; fiscal drag; and the drain of some demand growth overseas, among others. There were hints of optimism, but some also cited downside risk with respect to the economic growth outlook. Uncertainty is high, and it seems to be a pervasive issue for both the economy and for the Committee.

An important consequence of slow economic growth is that unemployment is likely to decline, at best, very slowly—it may even increase in the near term. There may have been a structural break in terms of the pace of the recovery of employment following recessions, and there is disagreement about the extent to which unemployment is amenable to countercyclical policies—some thought not very amenable, but others cited the lack of aggregate demand as a key source of slow employment gains and worried about hysteresis. Ongoing declines in house prices, tight credit, the need for deleveraging, and weakness in the labor market have contributed to the weak tone of consumer confidence and spending.

Financial conditions have improved somewhat in the past few months in anticipation of further easing of monetary policy. Stock prices are up. Credit spreads have tightened, and the dollar is down. Banks see better credit quality but are being hampered by new concerns about foreclosure documentation and possible put-backs of defective mortgages, as well as by new financial regulations. Small banks also cite the regulatory burden. The problems with foreclosure documentation could, in turn, delay foreclosures and necessary adjustments in the housing and mortgage markets. Large firms continue to be liquid, with good access to credit—

banks are actively seeking their business—but they are disinclined to hire U.S. workers. Many small and medium-sized enterprises still see credit as a problem, if not the principal one. Some capital investment is taking place to improve productivity or increase market share, but top-line demand is not growing much. Some industries are doing relatively well, including energy, agriculture, IT, and some parts of manufacturing.

Internationally, Asia is growing quickly and is an attractive place for investment. Conditions in Japan and Europe are more mixed, and sovereign debt risks remain an issue in Europe.

Inflation has drifted down some this year, especially as reflected in core measures. Wage growth has also fallen, perhaps reflecting the extent of resource slack. Near-term headline inflation may be lifted by energy and import prices. Inflation breakevens are up but are within recent ranges. Private-sector forecasts and surveys suggest reasonable underlying stability in inflation expectations. Inflation forecasts around the table are diverse, with some seeing further disinflation arising from resource slack, and others seeing the rate of price increases picking up over the next few years. Pricing power still seems very limited, but some firms expect to increase prices somewhat in the future. Some nominal variables like M2 and nominal GDP are growing more quickly.

Participants see both upside and downside risks to inflation in the medium term. Disinflation raises real interest rates and thus serves to tighten monetary policy implicitly, a particular problem in a liquidity trap. However, real yields are very low on an absolute basis and may be indicative of risk aversion.

It's a bit of a potted summary. Are there any comments? Anything important? [No response]

I won't give a close reading of the economy, because that's already been done. Rather, because I know everyone is going to want to be talking about LSAPs and the policy options in the next go-round, which we'll leave until tomorrow, I think the most useful thing for me to do is to try to lay out the issues and the concerns, and I hope that will focus tomorrow's discussion somewhat.

My very first important comment is that you should use the term LSAP and not QE. [Laughter] This is not quantitative easing—this is not about the monetary base. That's the most important thing I'm going to say.

Let's look at the issues. The first question I want to address is whether there is a need now for additional monetary stimulus. I think there is. There has been considerable markdown in the outlook. I've looked at this for the last few meetings, and I've cited the numbers, but I'll look at them one more time. In April, the staff was predicting real GDP growth of about 3.6 percent in 2010 and 4.4 percent in 2011. Now that's down to something closer to a little over 2 percent in 2010 and 3.3 percent in 2011, excluding the financial market effects. Meanwhile, unemployment is now projected next year to be about a percentage point higher than it was in April. Roughly speaking, since April the predicted level of GDP at the end of 2011 has been marked down by about 2½ percentage points. So, roughly speaking again, we've lost a year of economic growth just in the markdown since April, and, by Okun's law, that's about a percentage point in unemployment. Thus, the recovery has been pushed out about a year, and the outlook, therefore, as many people have noted, remains fairly drab.

Now, in April and May, we were initially thinking that this was potentially a soft patch associated with the European sovereign debt crisis, and it may be that the debt crisis created some additional risk aversion in financial markets. But I think at this point we would agree that

those factors are behind us and that we're now facing a recovery that has slowed and does not seem to have the momentum that we were hoping for earlier in the year.

Given this very slow growth outlook, I think there are several grounds on which we might consider additional stimulus at this juncture. I would call the first argument the "optimal policy" argument. We are at the zero lower bound, we are in a liquidity trap, and, therefore, analyzing policy is more difficult than usual. However, with the staff's help, we have got some useful linkages between the conventional interest rate policies we're used to and the nonconventional LSAPs that we are currently contemplating. In particular, Michael Kiley and some of his colleagues have done calculations showing the correspondences between cuts in the federal funds rate and changes in the amount of assets that we hold.

One way to think about our policy options, then, is to begin with thinking about what we would be doing with the federal funds rate if we weren't at the zero bound. I must say, right up front, the answer differs considerably according to the rule or model that you're using. For example, the Taylor 1993 rule suggests that we should be at about minus 75 basis points, and, translating LSAPs into funds rate cuts, we're already there, so the Taylor 1993 rule would not suggest we do much more. The Taylor 1999 rule, by contrast would have us at minus 400 basis points at this point in order to be at the appropriate spot.

One useful intermediate case is the optimal control analysis, which is done in the Tealbook, Book B. It starts from the current level and requires rates to adjust only gradually. It implies that, taking into account all of the factors that the staff considers for the forecast, we should be somewhere around minus 360 basis points by the middle of 2011. If you assume a correspondence between LSAPs and the federal funds rate, as given by the staff's analysis, where \$150 to \$200 billion of LSAPs equals a 25 basis point move in the funds rate, the optimal



control analysis suggests we need about \$1.5 trillion more of securities purchases to meet the requirements of the rule. Of course, that would not restore the economy in any short period of time, but it would put us on the right path. This is, admittedly, a difficult and rough calculation, but clearly we have to think beyond the fact that we're at the zero lower bound and consider what kind of metrics we can use to think about additional policy action. So, one baseline consideration, the optimal control analysis, would suggest that we need to do about \$1.5 trillion more.

Having said that, one point that I've made consistently and that all of you have made is that, in fact, we are not in a federal funds rate world—we're using nonconventional instruments, which are uncertain in their use and have potential side effects. Therefore, going back to the golf analogy that President Fisher reminded me of, the usual principles would suggest that one would be more conservative than otherwise. I'm obviously not going to be proposing \$1.5 trillion either now or necessarily at any time in the future. So, argument number one is that we're still too tight, given some standard metrics.

MR. KOCHERLAKOTA. Mr. Chairman.

CHAIRMAN BERNANKE. Yes.

MR. KOCHERLAKOTA. I'm sorry to interrupt, but in terms of the equivalency you're describing, my understanding is it's about the expected stock of purchases.

CHAIRMAN BERNANKE. Right, the expected stock. I'm talking about the size of the balance sheet that we would ultimately want to have, and that doesn't preclude any kind of adjustment process or whatever that might be.

The second argument is also in some sense an implication of the zero lower bound, and it is that we face asymmetric risks. I'll cite two in particular that I think are important. The first

has to do with the behavior of unemployment and the possibility that the recovery will stall. We're currently at a rate of economic growth of about 2 percent, which, as you know, would actually result in unemployment tending to rise, according to Okun's law. So we're not expecting any improvement in unemployment in the next quarter or two. In fact, I think there's a reasonable risk that we'll see unemployment go up somewhat. And that raises the risk—which could be somewhat greater than some might think—that the recovery could actually stall. There is this concept of a two-state model of expansions and recessions. It has also been expressed more informally in terms of escape velocity, and there's something called the 0.3 percentage point rule, which says that if the unemployment rate rises by 0.3, you'll have a recession, which always seems to work. The point here is only that, if the economy slows considerably more, the possibility that we'll get into a bad spiral of declining confidence, spending, and income is something to be worried about; and, given the lack of tools that we do have, our ability to address that situation would be limited. The second and related asymmetric downside risk is a deflationary trap, which Presidents Bullard and Kocherlakota, for example, have talked about. In a deflationary trap, you get a vicious circle of declining prices, higher real interest rates because of the zero lower bound, and then a weaker economy. The point I want to make is that, although I think actual deflation is not that likely, this adverse spiral can happen even if you have just disinflation, because disinflation, of course, raises real interest rates. So, again, the risks are somewhat asymmetric in that it's difficult to address those downside risks, whereas the upside risks of too rapid growth or too high inflation within limits can be addressed by raising interest rates. That being said, I want to acknowledge and state very clearly that I think we ought to be extremely sensitive to inflation expectations. It's possible that they could move discontinuously, and that would be a counterargument to this point of view.

A third argument for additional support is what I would call the “long-run effects” argument. There’s a classic paper by Lucas where he essentially argues that business cycles are not all that important in the end, because they’re only temporary fluctuations in consumption and income. Therefore, the case for addressing a business cycle more aggressively depends at least in part on the extent to which the recession has permanent effects on the economy. Governor Tarullo raised this point. One way that the current slow economic growth or a double-dip recession could have permanent effects would be, of course, if it led to a permanently higher NAIRU or created hysteresis in the labor market. That would transform what we hope is a relatively short-term business cycle into a long-term loss of growth and employment. A deflationary trap also could be very long-term, as Japan’s “lost decade” suggests.

Summing up, there are a number of reasons to think that the economy is too weak and needs additional help. I think the bottom line for me is something I’ve said at a number of meetings before: It strikes me that it’s very hard to rationalize the fact that we are going to be missing on both sides of our mandate in the same direction for the foreseeable future. Even if you were satisfied with 1 percent or 1½ percent inflation, you might want to consider whether a somewhat higher rate of inflation—still a reasonable one, say, 2 percent—might be the right thing to do if it were possible to use that to improve economic growth and employment.

That’s a very long disquisition on the question of whether we need to provide additional help. I think we do, and I think we’re missing the mandate in the same direction on both sides, and that’s really very hard to defend.

Now, all of that is very interesting, but it doesn’t do much for us if we don’t have tools that will work. If LSAPs are not going to affect the economy, then there’s not much benefit to worrying about it. I think they will work, and let me talk about the two stages of the operation.

The first stage has to do with easing financial conditions. And, again, this is part of my reaction to the term QE—you hear people say sometimes, “Well, the economy is flooded with liquidity, so putting in more liquidity is not going to help.” That’s not how this is supposed to work. The way this is supposed to work is by affecting asset prices—changing relative rates of return—and through the changes in asset prices affecting financial conditions and, therefore, affecting the economy. While you could argue in theory about whether asset purchases are neutral or not, the practical experience of the last month or two shows pretty definitively that our discussion of potential asset purchases has, without the possibility of denial, I think, affected asset prices relatively significantly. You also can question how much movement has occurred in response to our discussions of potential asset purchases. The staff has actually been quite conservative in its analysis of how much of the movement to attribute to that, and I’ll discuss that in more detail shortly. In any case, in just the last couple of months, we’ve seen, for example, a 13 percent increase in the S&P 500, we’ve seen real 10-year yields down 45 basis points, as President Kocherlakota pointed out, we’ve seen spreads narrowing in credit markets, and we’ve even seen declines in nominal Treasury yields. If all of these effects are coming from good news about the economy, then the movements in the equity prices and the real interest rates seem somewhat inconsistent with each other. As I said, the staff is fairly conservative in how much of this they attribute to the potential policy action, but I think there’s pretty strong evidence that we are affecting financial prices and financial conditions.

But that’s not enough, and President Fisher and others have been eloquent in arguing that we can change asset prices and we can provide liquidity, but, like the proverbial horse that we’ve brought to water, we can’t “make the economy drink.” What about the transmission mechanism? Is the transmission mechanism broken?

A very useful way to approach this might be to start with the staff analysis on page 4 of the Tealbook, Book A, which is the box comparing the policies. In particular, it compares the announcement of zero LSAPs with an announcement tomorrow of \$600 billion, which was the baseline, and no further purchases beyond that. I think it will be useful to discuss that comparison as well as areas where we think the analysis is either too optimistic or insufficiently optimistic.

Again, the staff's analysis of the effects of the changes in asset prices on the economy is pretty careful and conservative. First, as I mentioned, they've been pretty careful not to over-attribute the recent asset price movements to policy expectations; for example, they attribute only about a 2½ percent decline in the dollar to these policy expectations, which seems like a fairly modest effect. They're also conservative in some other ways. For example, they're very careful—and I think this is admirable—to assume that the markets are anticipating \$1 trillion, so that, when we do only \$600 billion, the disappointment will set in, and that will lead to less stimulus than you might think based on recent asset price movements. They also are careful to take into account terminal conditions; that is, they require that the purchases be reversed over a time period similar to what we are currently planning, so the effects of the LSAPs are limited by the fact that our holdings of them are time-limited.

I would also argue that the staff analysis ignores some potential transmission mechanisms. For example, it assumes that longer-term inflation expectations are simply given, which, then, ignores changes in inflation expectations as a possible mechanism for this policy. Yet, as I mentioned, 10-year yields have fallen 45 basis points in real terms, and almost all of that is the change in the break-even rate, not in the level of the nominal rate. I think it's an open question as to whether the real interest rate is better measured using the real rate in the TIPS

market or better measured using a constant inflation expectation. So, to the extent that there's any change in inflation expectations, the analysis in the Tealbook is understating the potential effects. The Tealbook also ignores what I believe you would call balance sheet effects. Higher collateral values, such as higher prices of commercial real estate and the like, can reduce borrowing constraints and can reduce financial stress. It's not clear how big an effect that is, but it is certainly one effect that could occur because of lower interest rates and, perhaps, slightly higher inflation expectations. A third factor that the analysis ignores is any nonlinearities or any tipping point phenomena. Everything in the analysis is linear—you can figure out the effects of a \$1trillion purchase just by extrapolating from \$600 billion. But if you have tail risks, like deflation risks or a double-dip recession risk, then the potential benefits of avoiding a tipping point are understated by this kind of analysis.

Now, it's certainly possible that there are ways in which the staff analysis is overstating the effects. For example, it has been argued that firms have so much cash that they're essentially going to be indifferent to changes in interest rates. I'm not so sure about that. Remember that the opportunity cost of cash does not depend on whether you're holding cash or not. If interest rates go down and you have a lot of cash, another way of thinking about it is that you need to find some way to invest it, some way to use it. Lower rates ought to have some effect on spending decisions, and, indeed, around the table we heard discussion about how firms are using investment to increase productivity and increase share, even if they're not seeing much aggregate demand. Of course, this would increase aggregate demand through, for example, consumption, wealth effects, and the dollar. So the combination of a lower cost of funding and more final demand, I think, would have some effect on investment. That being said, as was pointed out in

the earlier discussion, the real interest rate effects are only about 15 or 20 percent of the total effect that the staff is assuming in its transmission mechanism.

There are also some other negatives to take into account. One that Governor Warsh pointed out was higher commodity prices. It's theoretically possible that commodity prices could rise so much in response to a purchase program that the effects on disposable income would negate the benefits of the program. Of course, the staff's analysis takes into account the implications of the dollar and lower interest rates on commodity prices. I've discussed this with the staff, and, while I won't go into detail, the bottom line is that you need to see an extraordinary increase in commodity prices—I don't mean \$30 or \$40 on a barrel of oil, I mean much, much more than that—to offset the beneficial effects on real output of the weaker dollar and the other changes in financial conditions.

The last point I want to make is to turn to the question of whether this is worth the candle. President Lacker raised this issue of why bother if the effect is going to be so small. According to the staff analysis, the \$600 billion purchase with no follow-up leads to an increase of real GDP at the end of 2012 of 0.7 percent, and \$1 trillion would raise output by 1.1 percent. Is this significant or not significant? Well, another way to look at this is to consider that the \$600 billion program, according to the staff, would reduce the unemployment rate by 0.3 percentage point by the end of 2012. In addition, remember that Okun's law means that there are a lot of employment effects other than just the unemployment rate, so a 0.3 percentage point improvement in the unemployment rate translates into a 0.7 percent gain in private hours, or about 750,000 jobs. That's the implication of the analysis, and of course, it would be more than a million jobs if you did the bigger program. Meanwhile, the staff's estimates of the effects on

inflation are very small, and, starting from where we are today, that's actually a benefit, not a cost.

To summarize, we're missing both parts of the mandate on the same side. The asset purchases appear to be stimulative, and, therefore, they move us in the appropriate direction.

Relative to standard policy, though, there are a number of risks and costs, and, at the risk of testing your patience, let me just discuss a few of those, and then I'll bring this to a close.

What are the risks that we might face if we undertake this program? I'm going to focus on the dollar, but I'll mention a few of the others as I go along. The decline in the dollar is part of the LSAP transmission mechanism, and, certainly, it would be a very serious concern if we thought that this was going to create a disorderly or an excessive decline in the dollar. Nobody knows exactly how this will work, of course, but based on what we've already seen, I think the odds of anything extraordinary happening are pretty low.

First of all, the absolute effects don't seem to be that large—the staff estimates the effect of even \$1 trillion of purchases on the dollar to be about 2½ percent, which is much smaller than the movement in the dollar over the summer, when we saw the reversal of the safe-haven flows associated with the European debt crisis. The dollar is not particularly weak—it is about where it was in the mid-1990s in real terms. Indeed, arguably, a depreciation would be stabilizing in terms of our trade balance. According to the IMF, the dollar is now overvalued from between zero to 15 percent. So the dollar is not excessively weak, and it doesn't seem likely that it would be driven down very much by LSAPs.

In addition, as Brian pointed out, even though markets are fully aware of these possible actions, there are absolutely no indications in markets that there is stress in terms of the dollar. Implied volatility on the dollar is way off earlier peaks and is comparable to the decade before



the crisis. Risk reversals show that markets anticipate dollar appreciation, not dollar depreciation. Market functioning is normal. Bid-asked spreads are very low. So there just really isn't much evidence at this point that the dollar is under any particular stress, even though markets anticipate this action.

A related point, which was part of the discussion that Nathan had earlier on, is the potential for a so-called spillover effect of a weaker dollar on emerging markets. Of course, I understand those issues, and I am sympathetic to them as well, but there are two responses to the concern that LSAPs amount to an aggressive or adverse act with respect to emerging markets. The first is that, of course, emerging markets need a strong U.S. economy. I had substantial discussions about this with a number of my counterparts at the G-20 in Korea, as well as in the open meeting, and certainly everyone agrees that a strong and recovering U.S. economy is very important to all of these countries and to the global economy. The second is that these so-called spillover effects are more a function of deficiencies in the international monetary system than they are a function of U.S. policy. In particular, there is a group of emerging market economies that are trying to play by the rules, trying to let their currencies appreciate appropriately, and they are caught between easy policies in the advanced economies and the propensity of some other emerging market economies to undervalue their currencies or to peg their currencies. That puts those countries in a terrible bind—on the one hand, they have to deal with the capital inflows, but, on the other hand, if they let their currencies appreciate, then they're not competitive with the countries that are undervaluing their currencies. The answer there, really, is that we need to continue to work with China and with other emerging market economies to get a better system and, in particular, to allow more flexibility in the renminbi. The question then arises whether we should allow these deficiencies in the international monetary system to prevent us from doing

what we need to do for the U.S. economy, and I would argue that the answer is “no,” and that, indeed, putting some pressure on the system might actually be useful in getting better solutions in the international monetary system.

There are a number of other risks with which you’re all familiar—inflation expectations, financial instability, and the like. I won’t go into them in any detail at all, but I would point out that, in terms of effects on inflation expectations, for example, policy using LSAPs is not discontinuously different from policies using short-term interest rates. What we’re trying to do is to make financial conditions more accommodative, and that essentially means lowering interest rates in the economy. We’re using a different tool, but it’s a continuous process from ease via the standard method to ease through the use of LSAPs. In other words, there’s nothing discontinuous happening when we switch from one policy to another in terms of the effects, for example, on financial instability. And let me just repeat now what I’ve said many times before, namely, that I think we have to be very aggressive in monitoring financial stability and inflation expectations. I don’t anticipate problems, but those issues are relevant to our policy of a low fed funds rate as well, so, as I say, we need to monitor them carefully.

Another issue is risks of capital losses and gains in our portfolio, and I’ll just say a few words on that. The staff has analyzed this alternative relative to our status quo, and, essentially, the capital loss risks are not much different. One reason for that is the analysis assumes that we will sell the MBS first. So, if we buy additional Treasuries, we’ll be holding them for a substantial period and, therefore, the income is essentially predictable, and we will very likely not be subject to significant capital losses. On that topic, we already have quite a cushion, of course, in terms of the unrealized gains on our balance sheet and the income that we’ve already remitted to the Treasury. So I think that we’re fairly well hedged against that risk. My final

point, and it's one that the Vice Chairman has made, is that the one scenario in which we might have some capital losses would be one in which the economy does very well and rates rise; in that case, I think that from a political perspective our position will be pretty good.

As I said, I've taken a lot of your time—there are a lot of issues here. Let me end by trying to reassure those who are nervous about this, and I think we're all nervous about it to some extent. I agree with President Bullard that we need to be very careful. I think there are theoretical advantages to “shock and awe,” such as regime change and that kind of thing, but, for the purposes of trying to regularize policy and trying to improve understanding of what we're doing and trying to make sure that we take appropriate safeguards, I believe we ought to undertake this in a very careful way. We need to have regular reviews—that means we need a discussion at every meeting on what our program is and what the implications are for the outlook. We need to have ongoing discussions regarding any developing costs or risks that we see arising, as well as any potential benefits, including assessments of those costs and benefits. I think that we ought to be very modest in our claims. Clearly, this is not going to solve the problem—at best, it's going to be supportive. However, by under-promising and over-delivering, I hope we would be better off than otherwise. I would note that the proposed program has an eight-month horizon, which gives us quite a bit of time to learn more about what's happening and what's going on in the economy, and to make adjustments, if necessary.

The last point I would make refers to some theoretical arguments you're all familiar with, namely, that, in order to beat a liquidity trap, you have to raise inflation expectations above your normal level. In Jackson Hole, I explicitly rejected any steps of that sort, at least for the foreseeable future. I am very committed to not raising inflation above the level that we all consider consistent with price stability, and if we begin to see that happening, I would be entirely

open to reining the program in. I do make that assurance that this is not about driving inflation high. This is about driving inflation up to where it's consistent with price stability and consistent with economic growth.

Again, I apologize for the length of this. I'm sure we'll have a lot more discussion tomorrow. So let's just bring today's session to an end at this point. At 5:30, there's a reception upstairs. We'll begin tomorrow morning at 9:00 with a presentation from Bill on the policy options, and then we'll have a much more in-depth discussion of these issues. Thank you.

[Meeting recessed]

**November 3—Morning Session**

CHAIRMAN BERNANKE. Good morning, everybody. We made an awful lot of progress yesterday—FOMC productivity is up. [Laughter] We're ready to begin the policy round. Bill English will lead it off.

MR. ENGLISH.<sup>3</sup> Thank you, Mr. Chairman. I'll be referring to the package labeled "Material for FOMC Briefing on Monetary Policy Alternatives." The package includes the four draft policy statements and the associated draft directives. You will note that we made some modest changes to alternatives A and B relative to the versions that were distributed in the Tealbook; those changes, which were distributed to the Committee on Monday, are shown in blue.

In putting together the alternatives that were included in the Tealbook, the staff read the Committee's discussion at the October 15 videoconference as indicating no consensus for a significant change at this time in the description of the Committee's objectives, such as the adoption of an explicit numerical inflation goal or establishment of a price level target. Accordingly, alternatives A and B retain a qualitative description of the Committee's objectives, while aiming to provide somewhat greater clarity about those objectives, as well as the link between them and the Committee's policy decision.

Turning first to alternative B, page 3, the Committee may think that it is appropriate to provide additional policy accommodation at this meeting in order to strengthen the recovery and move inflation back toward levels that it sees as consistent with its dual mandate. Such a decision could reflect three judgments: First, that the economic situation is not likely to improve sufficiently without further policy action; second, that additional purchases of longer-term Treasury securities will help support the recovery; and third, that the benefits of additional purchases outweigh the possible costs.

The first paragraph of alternative B summarizes current economic conditions. The incoming economic data have been about in line with expectations, as a number of you noted yesterday, so this paragraph is not greatly changed from September.

The second paragraph starts by pointing to the Committee's statutory mandate to promote maximum employment and stable prices, and then goes on to note that unemployment is elevated and inflation somewhat low relative to levels consistent with the Committee's dual mandate. The statement then observes that progress toward the Committee's objectives has been unacceptably slow.

Against this backdrop, the third paragraph indicates that the Committee will maintain its current reinvestment strategy and will increase the size of the SOMA

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<sup>3</sup> The materials used by Mr. English are appended to this transcript (appendix 3).

portfolio by \$600 billion by purchasing additional longer-term Treasury securities at a rate of about \$75 billion a month through the middle of next year. The fourth paragraph reiterates the “extended period” language that the Committee has used for some time.

The final paragraph retains some of the tilt that was in the September statement, but also suggests a more incremental approach to future asset-purchase decisions by stating that the Committee will regularly review the pace of its securities purchases and the overall size of the asset-purchase program in light of incoming information and will adjust the program as needed to best foster maximum employment and price stability.

A statement along the lines of alternative B would be roughly in line with market expectations, as Brian described them in his briefing yesterday, and so would probably have little impact on asset prices beyond those that have already occurred. However, I would note that market expectations appear to be more diffuse than usual, so some market reaction, either positive or negative, is certainly possible.

If members were inclined to take more aggressive action at today’s meeting, the Committee could announce the purchase of another \$1 trillion of longer-term Treasury securities, as in alternative A, page 2. Such an approach might seem attractive if policymakers were not confident that the headwinds holding back the recovery would ease as quickly as assumed in the staff forecast. Alternatively, members may be concerned that the current low level of inflation heightens the risk that adverse shocks could lead to deflation and a protracted period of extremely poor economic performance. And some members may simply see the economy as likely to fall short of the Committee’s dual objectives for too long to be acceptable, even with the purchase of an additional \$600 billion of longer-term Treasury securities.

Other than the description of the size and length of the purchase program, the first three paragraphs of the statement under alternative A are identical to those under alternative B.

The fourth paragraph changes the forward guidance about the federal funds rate to be more explicit about the likely duration of the current period of very low interest rates, indicating that the target range for the federal funds rate will be maintained at least until mid-2012, so long as: The unemployment rate remains elevated; the Committee continues to anticipate that, with such a policy stance, inflation in the intermediate term will not exceed levels consistent with its mandate; and longer-term inflation expectations remain well anchored.

The final paragraph of alternative A is similar to that in the September statement, indicating that the Committee will monitor the outlook and is prepared to provide additional accommodation as needed.

A decision to announce a purchase of \$1 trillion of additional Treasury securities at this meeting and to provide more explicit forward guidance regarding the federal funds rate would come as a surprise to market participants. Combined with the language at the end of the statement, these announcements could lead investors to mark down their expected policy path and would likely lead them to anticipate additional securities purchases before the program comes to an end. As a result, interest rates would presumably fall, stock prices rise, and the foreign exchange value of the dollar decline.

Alternatively, the Committee may have read the incoming data over the intermeeting period as generally mixed, and so members may remain uncertain about whether additional policy accommodation is appropriate at this time and want to leave policy on hold and await additional information on economic developments before making a decision on the need for further securities purchases. If so, the Committee might want to issue a statement very similar to that issued in September, as in alternative C, page 4. Such a decision would seem particularly attractive if the Committee was not confident that the possible benefits of additional policy accommodation outweighed the risks that additional securities purchases could entail. For example, some members may be worried that a further increase in the size of the Federal Reserve's balance sheet could undermine public confidence in the Committee's ability to exit smoothly from the current very accommodative policy stance, and so contribute to an undesirable increase in inflation expectations and actual inflation.

A decision to take no additional policy easing steps at this meeting would come as a considerable surprise to market participants, and much of the improvement in financial conditions that has occurred over the past couple of months would likely be unwound, with longer-term interest rates rising, stock prices falling, and the foreign exchange value of the dollar increasing.

Finally, if the Committee feels that the economic recovery is continuing and sees a gradual recovery as the best trajectory that can be expected in current circumstances, then it might be inclined to leave policy unchanged at this meeting and signal that it will likely be appropriate to begin removing policy accommodation before long, as in alternative D, page 5. Members may believe that much of the current elevated level of unemployment reflects unavoidable lags in the reallocation of labor across sectors and regions and so cannot be effectively addressed by additional monetary stimulus. Some members may also be concerned that keeping policy rates at very low levels for a long time and providing additional stimulus through asset purchases could lead to the development of macroeconomic or financial imbalances that could prove costly in the future.

The statement for alternative D revises the forward guidance for the federal funds rate to suggest an earlier increase in short-term interest rates and implies that the reinvestment policy could be reversed soon.

An announcement along the lines of alternative D would come as a great surprise to market participants. Interest rates would rise significantly across the yield curve, equity prices would decline, and the dollar would appreciate.

Draft directives for the four alternatives are presented on pages 7 through 10 of your handout. Brian Sack will continue our briefing.

MR. SACK.<sup>4</sup> I'll be referring to the handout labeled "Operational Implications of Policy Alternatives."

If the FOMC were to decide to expand its securities holdings as described in alternatives A or B, the Desk would have to determine a number of details for conducting the asset purchases. This briefing describes a proposed structure for an asset-purchase program, in order to allow you to better assess the desirability of such a program and to give you a chance to provide feedback on its structure.

As Bill just described, alternative B involves purchasing longer-term Treasury securities in order to achieve a \$600 billion expansion in the domestic asset holdings of the SOMA by the end of the second quarter of 2011. Those purchases would be in addition to the purchases of longer-term Treasury securities being conducted to reinvest principal payments on agency debt and agency MBS held in the SOMA. Based on current market conditions, we expect those reinvestments to total \$250 to \$300 billion by the end of the second quarter. Accordingly, our total purchases of Treasury securities over that period would be \$850 to \$900 billion—or an average pace of roughly \$110 billion per month. The projected path of purchases is shown in the upper left panel of the first page of the handout.

Such a program would have us running at a pace close to what we judge to be the capacity for Treasury purchases, in terms of our ability to complete operations and avoid disruptions to market functioning. The Desk would be operating in the market on almost every available business day. In particular, the schedule we propose would involve about 18 operations per month, with the average size of those operations at around \$6 billion. By comparison, the reinvestment program has involved 9 operations per month, with an average size of around \$2½ billion.

We would propose distributing the purchases across maturities in the manner shown by the red bars in the upper right panel. This distribution continues to focus our purchases in securities with remaining maturities of between 2 and 10 years. However, compared to the reinvestment strategy that has been employed to date, we would increase our purchases at both ends of this range, and we would modestly step up our purchases of very long-term securities and TIPS. Spreading out our purchases in this manner should increase our overall capacity for purchases.

These changes in the distribution were designed to have little effect on the average duration of the securities that we purchase. Indeed, under this distribution,

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



purchased securities are expected to have an average duration of about 5½ years, which is very close to the average duration of our reinvestments to date. However, the actual duration realized would depend on what offers we are shown in our operations. The distribution of purchases could be adjusted as warranted by market conditions, but any such changes would be designed not to alter significantly the average duration of the assets purchased.

To enhance our operational flexibility and to ensure that we are able to purchase the most attractive securities on a relative-value basis, the Desk intends to suspend the 35 percent per-issue limit on SOMA holdings under which we currently operate. This is a self-imposed limit that was established during a period of declining issue sizes in order to ensure that SOMA holdings would not impair market liquidity. We are comfortable with temporarily suspending the limit, because our auction-based approach should guard against purchasing securities that have considerable scarcity. Additionally, SOMA holdings of an individual security will only be allowed to rise above the 35 percent threshold in modest increments.

Purchases associated with balance sheet expansion and those associated with reinvestments would be combined into one set of operations to be announced under the current monthly cycle. The timing of that schedule would continue to be based on the release of MBS prepayment factors early in the month. Thus, on or around the eighth business day of each month, the Desk would publish a tentative schedule of purchase operations expected to take place through the middle of the following month. The schedule would include a list of operation dates, settlement dates, security types to be purchased, the range of eligible issues, and, for the first time, an indication of the expected size of each operation.

The Desk also would like to increase the transparency of its purchase process. Under current practice, some broad summary statistics from each purchase operation are published shortly after the operation has concluded, but no pricing information is provided. In order to ensure the transparency of our purchase operations, the Desk intends to begin publishing information on the prices paid in individual operations at the end of each monthly calendar period, coinciding with the release of the next period's schedule. This information should encourage additional participation by customers operating through dealers and, hence, should result in more submissions and better pricing.

If the FOMC were in fact to adopt the asset purchases described in alternative B, the Desk would release a statement concurrent with the FOMC statement, a draft of which is attached to your handout. This statement would provide details on the operational plan for purchasing securities, including the expected distribution of our purchases, in order to limit any uncertainty in the market. An accompanying set of FAQs on the asset purchases would also be released.

These details have been developed for the case of alternative B. If the Committee were to choose alternative A instead, most aspects of the proposed program structure

would be the same. As Bill described, alternative A involves increasing SOMA asset holdings by \$1 trillion by the end of 2011. This approach would involve about the same monthly pace of purchases as in alternative B, only with the operations carried out for a longer period. Given the larger cumulative amount of purchases, the Desk would likely modify the proposed distribution of purchases to some extent, in order to avoid excessive concentration of SOMA holdings in some maturity sectors.

Under either alternative for asset purchases, the SOMA portfolio of domestic securities would be considerably larger than it would be if the current portfolio strategy were maintained. This difference has implications for the expected income and risk exposure from the portfolio, as explored in the remaining panels of the exhibit. I will focus the results on the \$600 billion purchase strategy described in alternative B.

As shown in the middle left panel, the additional asset purchases under alternative B lift the size of the SOMA domestic portfolio to \$2.6 trillion in 2011, where it remains into 2012. After that point, asset holdings begin to decline, as the FOMC is assumed to stop reinvesting proceeds from its asset holdings in the second half of 2012 and then to commence gradual sales of agency MBS in early 2013. This path can be compared to the portfolio outcome realized under alternative C, which maintains the current strategy of reinvesting principal payments in the near term but does not involve purchases of additional assets. This strategy leaves SOMA asset holdings unchanged at around \$2 trillion over the near term, before the same approach of redemptions and asset sales causes those holdings to begin declining in 2013.

The expected net income path from the SOMA portfolio under these two strategies is highlighted in the middle right panel. For this and the other remaining panels, the FOMC is assumed to begin raising the federal funds rate target in the fourth quarter of 2012, and the path of longer-term interest rates moves up notably over the forecast horizon, as assumed in the Tealbook.

As can be seen in this chart, in both cases the expected income from the SOMA portfolio remains sizable. Under the current reinvestment strategy in alternative C, net income realized over the next several years is unusually large, reflecting the size of the SOMA portfolio and the low interest rate paid on reserve balances. Net income then declines through 2015 as short-term interest rates increase and asset sales lead to modest capital losses. However, net income remains above \$25 billion, implying that remittances to Treasury never fall significantly below the levels that were typical before the financial crisis.

The additional assets purchased under alternative B increase the expected stream of net income for the next several years, as the coupon income on the purchased securities exceeds the expense of the interest paid on the reserves created by those purchases. Eventually, however, this difference diminishes as the portfolios converge

under the two alternatives. Over the 10-year period shown, alternative B provides about \$27 billion of additional expected income relative to alternative C.

The additional expected income in part represents compensation for the greater amount of risk that the Federal Reserve takes on under alternative B. This risk comes from two sources.

One source of risk is the path of short-term interest rates. The bottom left panel shows the effects on SOMA net income if monetary policy tightening ends up being earlier and more aggressive than assumed in the Tealbook. In particular, the interest rate on reserves is assumed to begin increasing in late 2011 instead of late 2012, and the rate then follows a path that is 100 basis points higher than the Tealbook assumption through the end of the forecast period. Under this scenario, the higher cost of the additional reserves created by the elevated balance sheet weighs on net income under both of the policy alternatives. However, this effect is larger under alternative B, given the greater size of the reserves created. Over the 10-year period as a whole, the cumulative loss of income from this risk scenario is about \$15 billion larger under alternative B than it is under alternative C.

The second source of risk comes from potential capital losses on securities that are sold. Any capital losses realized under the assumed path of asset sales were included in the expected income projections shown in the middle right panel. However, it might also be worth considering the path of unrealized capital losses, as those losses could end up being realized if the FOMC decided to sell more assets than assumed in the projections.

As shown in the bottom right panel, even under the current reinvestment strategy in alternative C, the portfolio is projected to swing from a position of considerable unrealized capital gains today to a position of sizable unrealized capital losses, reflecting the increase in longer-term interest rates assumed in the Tealbook. This swing would be even larger under the additional asset purchases in alternative B, given the greater amount of duration risk taken. The peak difference in the projections involves about \$20 billion of additional unrealized losses under alternative B.

In addition, alternative B increases the sensitivity of capital losses to any unexpected increase in long-term interest rates beyond that assumed in the Tealbook. For example, a 100 basis point parallel increase in the yield curve would produce approximately \$85 billion in mark-to-market losses on the portfolio in 2012 under alternative C. With the larger balance sheet in alternative B, the mark-to-market losses would be approximately \$110 billion, or an increase of about \$25 billion. However, most of those losses would not be realized under the sales strategy assumed in our projections. Moreover, yields could also come in lower than assumed in the Tealbook, thereby reducing the portfolio losses shown in the bottom right panel.

Overall, these calculations are intended to provide some benchmarks for the amount of additional risk that the FOMC is assuming by engaging in further asset purchases. In closing, it is worth noting that, even if unexpected developments pushed the net income from SOMA into negative territory, it would not affect our ability to conduct monetary policy, although it would affect the remittances that we make to the Treasury. Thank you. That concludes my prepared remarks.

CHAIRMAN BERNANKE. Thank you. Any questions for either Bill or Brian?

Governor Warsh.

MR. WARSH. Thanks, Brian. I have a couple of questions. First, the way you describe the 35 percent cap seems a little different from what's in the statement you distributed. As I understand it, you don't anticipate going above the cap, but you're saying it might happen on occasion, in which case you just want to make sure you have the flexibility to deal with that. The statement says that we're suspending the per-issue limit and that some holdings will be allowed to move up "only incrementally," and I'm not sure that conveys the same thought. Can you help me understand how you and the Desk will act on these Treasuries so that you're not restrained, yet you also don't signal to markets that there is no longer a cap? That is, can this language be toughened? For example, could you say in this statement, "We are going to suspend the 35 percent limit. We still expect, by and large, to comply with it, but we have asked for and received flexibility as needed to move above it for the following reasons?" I worry a bit that this could get misperceived and the Desk might be seen as entering these markets and in some ways threatening to be more of a price-maker than a price-taker. Maybe you can help me understand what you think your practice will be and whether this language can be made less open-ended and still let you do your job.

MR. SACK. Let me start with the practice that we intend to implement, and that practice will be described in more detail in the FAQs that would accompany the statement, if you agree to it. What we intend to do is only to allow SOMA holdings to move above 35 percent in 5 percent

increments per operation—we would restrict accepted offers at any individual operation to that limit. The reason for doing that is to avoid unexpectedly and suddenly taking a large amount of outstanding supply. We do believe the auction mechanism will guard against the Fed owning too much of any individual CUSIP as long as the market understands where our holdings are and how they're increasing. We just want to avoid running into a situation where, for example, four dealers happen to show us a lot of the same CUSIP and we end up buying them and increasing our holdings of them too quickly.

In terms of the more flexible approach that you describe, we find it difficult to figure out how to implement that. If we said we're going to honor 35 percent but may go above it in some cases, that would require us to have some criteria for deciding when to breach that limit, and we couldn't settle on a clear, explicit set of criteria. So we prefer this approach, which will allow us to go above it based on the offers that we're shown from the market, and we would do so cautiously.

MR. WARSH. This is all about operations, and I honestly don't mean to be litigating the policy question now, which we're going to come to later. Is there a way to describe this that still seems to put bounds as well as to communicate your expectations to the market? That is, suppose you said something like, "our expectations are to be consistent generally with the 35 percent limit," which markets have long understood, and then put a semicolon or comma and then describe ways in which you have been given license from the FOMC to go above it in certain cases. I think that would give the notion that this is not a grand change in practice, so that markets wouldn't feel as though New York is unconstrained. I just worry that, as written, it looks as though the Desk will, frankly, use more liberties than you anticipate necessarily needing to and wanting to use.

MR. SACK. Well, I think the question is whether you're comfortable with the practice that I described. That information will be available to the markets in the FAQs. We can work on the language of the statement so it doesn't sound so extreme—perhaps the language on suspending the limit reads too strongly—but the content will be available to the market. May I say two other things?

MR. WARSH. Yes.

MR. SACK. One concern was that suspending the limit would lead to a lot of inference about where on the curve we're buying, because this limit is more binding in certain sectors, including bonds with outstanding maturities between 10 and 20 years. That's one of the reasons we felt it was important to publish the distribution of our holdings in the statement also, because it avoids any confusion about what the suspension of the 35 percent limit meant for the distribution of our purchases. The other issue is that we did contemplate setting a higher limit, but the problem we faced there is that, no matter what number we chose, it would lead market participants to calculate how much capacity that was giving us, and we worried that that would be seen as a signal about the potential ultimate size of asset purchases. So we felt the best approach was simply to suspend it, but to do so in this cautious way.

MR. WARSH. Again, I just encourage you to think about the language in the statement. Think about the FAQs, and see if you can't constrain yourself with the language in a way that gives you the flexibility you need to take whatever judgments the Committee comes to. Just as an open point, and I'm happy to be helpful.

Second, on the listing of the purchases as \$110 billion per month and a total size of \$850 to \$900 billion in the statement, I have one cosmetic suggestion. I understand that that is a function of two things: your expectation of what the Committee will authorize today, along with

the reinvestments. But the numbers that are in the FOMC statement and the numbers here are different, that is, the FOMC statement just talks about the additions. So in your statement I encourage you to disaggregate it into the two pieces. My suggestion would be simply to break down the \$110 billion per month into its two constituent components and to break down the \$850 to \$900 billion into its two constituent components, just so that people see the connection between what we are authorizing and what you're doing and so that it doesn't look as though the FOMC is giving one message and the Desk is giving a separate message to dealers who have expectations closer \$1 trillion than to \$500 billion.

VICE CHAIRMAN DUDLEY. I think that's in the statement.

CHAIRMAN BERNANKE. The first paragraph says \$600 billion.

VICE CHAIRMAN DUDLEY. It says \$600 billion in the first paragraph and \$250 to \$300 billion in the second paragraph.

CHAIRMAN BERNANKE. They're taken together, the two parts.

MR. WARSH. Yeah, but I think the \$75 billion doesn't show up.

CHAIRMAN BERNANKE. Okay. President Fisher.

MR. FISHER. First, I wish to weigh in with Governor Warsh regarding the 35 percent. I think you can handle this, by the way, by saying "up to" when we talk about the amounts we're going to invest; for example, "up to an additional \$600 billion," "up to \$850 to \$900 billion," "up to \$110 billion," and then you can also say that, on occasion, the Desk might move above 35 percent. There's a way to word this other than by waving a red flag in front of people. Echoing Kevin's last point, it doesn't take an agile mind to take \$110 billion, multiply it by 12 to annualize it, and, voilà, it comes out to \$1.3 trillion, which is the amount of the deficit. So it looks as if we're monetizing the deficit, and I think you have to be mindful of that. Sophisticated

people may be able to sort this out, but it's not only sophisticated people who are going to read it.

Second—and you were very conscious of this; you and I talked about this off line—you have to be extremely careful that people don't “front run” our intentions. Even though we may not give a specific number, by saying we'll move above 35 percent, the game is going to be trying to figure out where we're going to move above 35 percent when you do. I think there's a way to editorialize this, and we can talk about that a little bit later.

I have a question, Mr. Chairman, and I have a statement disguised as a question.

CHAIRMAN BERNANKE. Not anymore. [Laughter]

MR. FISHER. I just want to understand this in plain English—I'm referring to panels 4, 5, and 6 in Brian's handout. Let's say the Chairman is called before the Senate Banking Committee at the end of 2012 and is asked, “Do you have a loss or do you have a gain on this portfolio?” What's the answer? Under the assumptions given here, did you make money or did you lose money with the strategy that your Committee has adopted?

MR. SACK. Do you want me to answer?

MR. FISHER. Go right ahead. You've laid out the sensitivities. Let's assume that rates are up 100 basis points under alternative B. What's the answer?

MR. SACK. I think the answer is that we made money, because the additional coupon income is outstripping the increased cost of the reserves under that scenario.

MR. FISHER. So rates have gone up 100 basis points. We have an unrealized loss, but the income outstrips the loss—is that correct?

MR. SACK. Right, under that scenario.

MR. FISHER. By how much?



MR. SACK. The additional net income stream over the 10 years was \$27 billion, and the additional loss coming from the 100 basis point shock to short rates was \$15 billion, so it's the net of those, which is around \$10 or \$12 billion.

MR. FISHER. And, of course, if rates go up higher than 100 basis points, it's less.

MR. SACK. Correct.

MR. FISHER. Got it.

MR. SACK. Clearly, additional asset purchases put more risk onto our balance sheet.

MR. FISHER. Sure, particularly where we're further out on the curve.

MR. SACK. And we are compensated for that because we're buying at market prices, but that compensation is reduced to the extent that we've collapsed the term premium. Conceptually, the term premium is that expected excess return that market participants get for that risk. So there's some compensation, but clearly there are risk scenarios where it will be negative for net income.

MR. FISHER. Thank you.

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. I have three questions—two for our Manager, and one for the staff. Brian, when you were discussing panel 2 and the proposed distribution of the purchases under alternative B, I think you said that you wouldn't necessarily exactly hit these, depending on what offers were shown. I wanted to find out a little more about what you meant. The base case would be that we'd go to the market with a certain amount of buys in each CUSIP, and that's what we'd buy, and we'd let the market determine the price. You obviously have something else in mind.

MR. SACK. Sure. We specify a maturity range, which is actually shown in that panel. We do an operation across all CUSIPs in that range, and we choose the securities based on two criteria: how the prices come in relative to the market, and how cheap or expensive they look relative to a smoothed yield curve. Therefore, there is a relative value judgment that could determine where within each maturity bucket we purchase. The point is that, depending on the offers we're shown, say, for the bond, we could end up buying at the shorter end of the 18- to 30-year sector or at the longer end—it depends on the offers. That's what introduces some variation in the average duration of the securities that we purchase. The question is: If, at some point, there's enough variation, how do we compensate for that? I think the way to compensate for it is to start to shift how much we're buying in each bucket. The point I was trying to make is that we'll seek to keep the average duration around 5½ years, and if we get enough variation from that, we'd probably make changes to the distribution.

MR. LACKER. I know how you do it with triparty RP operations across the three tranches, so you're going to have some similar mathematical construct about the yield curve to tell you how to judge prices and offers across the yield curve, right?

MR. SACK. Correct. We think it's prudent to look at the offers we receive and make a judgment about which of those securities offers the best value to the taxpayer.

MR. LACKER. The great achievement of the 1951 Accord was to free prices in the government market from our fixing them. Do you feel like you might be in danger of kind of pegging the yield curve spreads?

MR. SACK. We're not pegging the overall shape of the curve, but it is true that, within each maturity sector, our operations will tend to compress variation around our spline. The bigger the Treasury purchase program is, the more relevant our spline becomes, because we're a

big participant in the market, and we're buying based on evaluations around our spline. But this is an issue about small differences in relative value across CUSIPs as opposed to the bigger question about the overall shape of the yield curve.

MR. LACKER. But the two are intertwined in your methodology, right? I assumed that, in some sense, the idea of alternative B was: here's an amount and here's how we're going to buy it across the curve, and we don't know how the yield curve is going to react. There are a lot of empirics about that, and for a couple of years we've been wrestling with the question of what effect these things have on 10-year securities versus 2-year securities. You're supplementing the Committee's choice with some judgment, and you're saying that the broad program is going to have its effect, but you're just going to tweak it around the margin. How do you draw the line there?

MR. SACK. Regarding the 2-year versus the 10-year, our actions are completely represented in the red bars in the upper right. That's the decision about what sectors we're purchasing, and that's why this is presented to you to make sure you're comfortable with it.

If we used our spline or some theoretical measure of fair value and then bought across the whole yield curve based on that, then I would agree with you—we would be making a judgment that the 2-year sector is too cheap and the 10-year is too rich, and we'd have bigger effects across the whole curve. But that's not what we do. We divide these up into relatively limited maturity buckets so that that assessment of relative value occurs only, say, within the 5½- to 7-year bucket, so we're just slicing the yield curve up into these buckets where we're making a relative value judgment but only within that maturity range.

MR. LACKER. Okay. So across the boundaries there's no linkage?

MR. SACK. No. Across the boundaries you'll get the red bars shown.

MR. LACKER. So 5.4 year maturity versus 5.5, you're not going to make a relative value judgment across that?

MR. SACK. We do if they're in the same bucket, but —

MR. LACKER. Yeah, I know, but they aren't, see?

MR. SACK. That's right. We'll do one operation that will include the 5.4 and we'll do another operation that will include the 5.5.

MR. LACKER. Okay, so you're not going to make that judgment.

MR. SACK. That's correct.

MR. LACKER. Okay, and how much of this is going to be transparent to the market?

MR. SACK. This is going to be more transparent than Desk operations have ever been. [Laughter] We've never explicitly announced the distribution of our purchases. In the past we haven't even announced the size of individual operations when we do them.

MR. LACKER. Yes, but what about the spline? The bidders are going to understand after a while that you're not taking it pro rata, that you're making judgments, right? What are you going to explain about how you do this? The triparty market knows how you do this.

MR. SACK. They already understand that we have a spline to make this relative value calculation. And almost every shop on the street has an estimate of what our spline is.

MR. LACKER. Why don't you give it to them?

MR. SACK. I think we could entertain that idea—I'm not opposed to that. I don't really feel like making that decision today, given everything else we're trying to implement, but I think that, compared with the past, we are being very transparent in terms of how we're distributing our purchases across the curve, and, as I said in the briefing, in terms of giving them the prices at which we actually accepted offers, which is something that we've never done in the past.

MR. LACKER. That's useful. Here's my second question for you, Brian. You said that you thought that the pace in the forecast under alternative B was—I think I heard this right—about at our capacity to make purchases while avoiding disrupting market functioning. I wondered if you could help the Committee understand what the nature of market dysfunction would constitute if we were to exceed that limit. If we were to stray accidentally and do too much and it created market dysfunction, what would that market dysfunction look like? What would it consist of?

MR. SACK. Let me start by saying that I think the capacity has to do, first, with our ability to conduct the operations and get them done and then, second, with market functioning. The market functioning side is very difficult to judge. I think what we mean by that is: Could we be buying so much that we would be causing a deterioration of liquidity in the markets? We want to separate having a price impact, which, of course, is part of the objective of the program, from liquidity conditions. So the market dysfunction we would worry about is creating too much of a one-sided market, resulting in lower trading volumes between other parties, higher bid-asked spreads, and so on. It's very hard to judge where that point is. At this pace of purchases, essentially we are taking up all of the new net issuance from Treasury for a month, because that will average about \$100 billion a month; and if we go further, we have to do more pushing of investors out of the market. Nevertheless, on the other side, our purchases are actually still quite small relative to the gross trading flows in the market.

To sum up, I think it's a very hard judgment to make. Looking at our own operations, we feel that, at this pace, we're pushing quite hard—as I said, we're operating every day with pretty sizable operations. The purpose was just to say that if the Committee wanted to move more rapidly—suppose you wanted to do \$1 trillion over that window—we would have to rethink how

we operate and consider whether it can all get done in Treasuries or whether other asset classes, such as MBS, would have to be introduced.

CHAIRMAN BERNANKE. President Evans.

MR. LACKER. I'm sorry, I had a third question.

CHAIRMAN BERNANKE. Go ahead.

MR. LACKER. Because we're talking about policy options, even though the effect of the policy was discussed yesterday by Dave Wilcox, I just want to ask another question about that, and, in fact, this question is inspired by something you said yesterday. I really appreciated your very extensive remarks at the end of the day yesterday. It was very beneficial to hear from you in that amount of detail your thinking about a wide variety of issues related to this.

I've never seen the Committee presented with any analyses of asset-purchase programs that were not accompanied by an equal-sized expansion of the monetary base. It's easy to imagine something like that—we did it in the 1960s with Operation Twist where we sterilized purchases of long securities by selling short securities—picking some point at the short end of the term structure, where yields aren't equal to the interest rate on reserves, and selling there an amount equal to what we buy at the long end of the curve. You've never presented us with an analysis of that. Moreover, in all of the empirics aimed at assessing the effect of the LSAP, all of them have announcements where it was widely understood that those purchases were going to be accompanied by an increase in the monetary base of equal size. So I'm wondering what information you could give us to disentangle or differentiate between the effects of asset purchases and the effects of expanding the monetary base and what the staff's view is about the difference.

MR. REIFSCHNEIDER. One main thing, and Nathan may want to talk about this, too, is going back not to the U.S. experience. One key thing is looking at the Japanese experience where they, in essence, ran the experiment you're talking about, which was to increase greatly the monetary base. Our assessment is that it did very little. The Japanese, I think, are a little bit more optimistic about what they did, in that they think that did help hold up inflation expectations. People have debated that one, but the general feeling is that just expanding reserves did very little to bolster the Japanese stock market or that sort of thing.

For the United States, we haven't actually run the experiment you're talking about, so there's no way to look at any evidence to judge whether we'd get a different result. The logic of what we're doing is that, yes, there would be a difference, and if we just expanded reserves, the assumption we're making is that we would get very little for that.

MR. SACK. We did write a MarketSOURCE piece a few rounds ago that addressed at least part of your question. We've looked at a lot of event-study evidence in evaluating LSAPs, and, as you pointed out at one meeting, those experiments involved not just the change in the asset holdings, but also the concurrent change in reserves. So can we really disentangle which of those is affecting financial conditions? The MarketSOURCE piece compared those event studies with event studies around the SFP. When there have been unexpected changes in the Treasury's SFP, it amounts to a surprise change in the level of reserves without any corresponding change in the amount of duration risk that we're taking out. The analysis made the point that those surprises didn't seem to have much effect on financial conditions. So that may be one small piece of evidence that the effects of the LSAPs come more from the assets taken out of the markets than from the change in reserves. To your broader question, it's true—we could achieve a sizable change in the duration of our holdings through a portfolio reallocation if you were

willing to sell shorter-term assets and buy longer-term assets, and you could do that without reserve implications.

MR. ENGLISH. We did some work, if you remember—a little more than a year ago, I think—where we talked to the banks that were holding large stocks of reserves and asked them about their demand for reserves and what they intended to do as their demand for reserves declined. At that time, the staff’s feeling was that the large stock of reserves didn’t seem to be having the sorts of effects that you would expect to see from a pure QE approach, in the sense that the money stock wasn’t growing rapidly and bank credit wasn’t growing rapidly. At least some of the banks were telling us that, when it came time to reduce their demand for reserves, they were going to move first into holdings of short- and intermediate-term securities and only later into increasing their lending. We said at that time that we’d want to focus on looking at the bank credit numbers to see if, in some sense, that seemed to be getting some traction, that is, if you seemed to be seeing a pickup in growth in bank credit, a pickup in growth in loans. Today loan growth is still negative—it has slowed some—and it does not appear that there is the sort of transmission mechanism that I associate with QE operating through bank balance sheets; it just doesn’t seem to be there at this stage.

MR. LACKER. I recall those discussions, and I had some discussions with bankers as did other folks at the Richmond Fed. Did you do this in August or September of last year?

MR. ENGLISH. That’s right.

MR. REIFSCHEIDER. Could I make one other point? It’s related to this discussion, and I think it’s implicit in what everyone is saying. You could say, “Wow, we’re swapping T-bills for money,” but one could argue that, at a zero fed funds rate, there really isn’t a distinction between T-bills and money. Actually, maybe the better way of saying it is that the



distinction between reserves and T-bills is not really existent at that point. But if you're buying longer-term assets instead, now you actually are changing something—you're engaging in an operation that is a swap that is materially different.

MR. LACKER. The discussions with the banks that I'm familiar with indicated that in their liquidity management operations they did view the margin of substitution between reserve balances and short-term Treasury and agency securities. At the yields during the summer, they viewed it as an attractive option to reduce their holdings of reserve balances and move into Treasuries and agencies. In the event, we kept increasing reserves. Lo and behold, yields on Treasuries and agencies fell in the fall, which is what you'd predict would have to happen to make them willing to hold the reserves involved.

MR. ENGLISH. Those are short-term.

MR. LACKER. Right, but obviously there's a whole chain of unsegmented markets in those types of securities that would transmit that out the yield curve, so it's not inconceivable that that could be having an effect. Governor Duke raised the question of what banks are going to do with all these reserves, so I think it's legitimate to consider whether the monetary base could be as much of a factor in the effect of this program as the longer-term yield, which is just the point I wanted to explore.

MR. ENGLISH. One piece of thinking that we've done over the intermeeting period was related to work that you may remember from a year or so ago. We were interested in the extent to which the increase in reserves could potentially put pressure on banks' leverage ratios, because it's making their balance sheets larger. We had concluded a little more than a year ago that that effect wasn't that important because banks had enough capital that it didn't seem to be eating into that cushion very much. That same calculation today holds true even more, in the

sense that bank balance sheets have shrunk, bank capital has gone up, so there's even less of an effect.

MR. LACKER. I'd mention another thing. You wouldn't expect the QE channel to be limited to bank lending, right? The decrease in corporate yields could just as well occur because you're pushing people out through a series of markets—you're making yields such that they want to move out, and that pushes yields down in other markets. So it might not be bank lending where rates are pushed down. It could be working in markets where the borrowers are more creditworthy, which tend not to be intermediated in our economy. And bank security holdings have been going up lately as bank lending has been going down.

CHAIRMAN BERNANKE. I think the general theory of the liquidity trap is that, once you get to a certain point, essentially the demand is interest-inelastic, and there's no further effect on short-term rates by increasing the supply of money. That's what liquidity traps are about, that's what the zero lower bound is about.

MR. LACKER. I just take my anecdotal evidence from the large institution whose liquidity management operation we've had a fair amount of interaction with. There is a meaningful margin of imperfect substitution between bank reserves and other short-term liquid securities that they hold as part of their liquidity management operations.

MR. REIFSCHNEIDER. Not to continue this, but I think implicit in this is the idea that buying a 5-year or 10-year Treasury note is what you would substitute for a corporate bond, rather than say, buying a T-bill. So, again, it's the duration.

CHAIRMAN BERNANKE. Let me go on to President Evans.

MR. EVANS. Thank you, Mr. Chairman. I had a question about the wording in alternative A and the intention there. In paragraph 4, you have some forward guidance, and in

particular the phrase, “the Committee continues to anticipate that, with such a policy stance, inflation in the intermediate term will not exceed levels consistent with its mandate.” What is the intention of this type of phrase? What’s your expectation? What are we trying to convey there? Does this mean that, as inflation begins to rise to the mandate level, there would be a presumption that it would never go over by a tenth, or what? That’s the issue that I have—the public’s and our interpretation of this.

MR. ENGLISH. We were trying to convey that the Committee wants inflation to move back to the mandate-consistent level. We are not aiming to put inflation above the mandate-consistent level. That’s a possible policy approach, as we know, but this would say that’s not what we are trying to do—what we’re aiming to do is just move it back, in some sense smoothly, to the mandate-consistent level. Therefore, the Committee would begin to think about tightening policy if its projections of inflation over the intermediate term were above that.

MR. EVANS. So are you supposed to rise smoothly and not overshoot at all, or would it allow some overshooting?

MR. ENGLISH. There’s noise here, but this would be a forecast.

CHAIRMAN BERNANKE. The word “levels” actually creates some ambiguity.

MR. KOCHERLAKOTA. I also was going to say that the word “levels” has the ambiguity that Bill is suggesting. The word “levels” is supposed to connote an interval, I think, of some kind.

MR. ENGLISH. Well, it connotes that not all of your views are the same.

MR. KOCHERLAKOTA. That’s true.

MR. FISHER. We’re trying to reassure people we are not going to go hog wild.

MR. ENGLISH. That was the intent, yes.

MR. LACKER. We could just say we haven't adopted price level targeting.

MR. EVANS. That's not today's push.

MR. KOCHERLAKOTA. I would rather use "hog wild" somewhere. [Laughter]

CHAIRMAN BERNANKE. Governor Duke.

MS. DUKE. Thank you. Brian, just two questions to make sure I understand the capacity constraints. Are they related to the purchase of Treasuries at the Desk or related to the maturity distribution that you're looking to purchase?

MR. SACK. We were thinking of it as related to the overall pace of purchases. It is true that if we shifted the maturity distribution, it would give us more or less capacity—generally, if we shorten the maturity distribution, we can probably buy more quickly. But that shortening of duration may offset the perceived benefits of the portfolio-balance channel. So it is somewhat dependent. I was saying that, under this type of distribution, generally, that's a pace that we're comfortable running at.

MS. DUKE. Second, I thought I understood you to say that the maturity distribution might be different if you were ultimately aiming to purchase \$1 trillion rather than the \$600 billion. So my question is: If we got to the point where we purchased the \$600 billion and wanted to purchase another \$400 billion, would the latter purchase look different from the former?

MR. SACK. The approach we've taken here is to set out a distribution that we'll basically stick to over the entire period of the program. If you decided to do \$1 trillion through the end of 2011, I think the best approach would be just to tweak the distribution as we see fit and get it in place today, and then carry it out. But it wouldn't be the end of the world, either, if we did this for six months and then reevaluated. So we could do it either way. For some sectors,

like the 10- to 18-year sector, the farther we go with this, the more of the available supply we take out of the market—we'll end up with more issues crossing the 35 percent limit, and so on. So we would want to make some modest modifications, but not dramatic ones. I don't want to turn that into a larger issue than it is.

MS. DUKE. Thank you.

CHAIRMAN BERNANKE. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. Back to Brian, at the risk of asking you to cover ground you've already covered, I'd like to understand a little more your thought process in striking the degree of transparency that you're proposing in this statement. Are there arguments that you weighed against this degree of transparency? And then, to echo what I think President Lacker referred to, what more could you do if you wanted to be more transparent?

MR. SACK. We discussed the pros and cons of this pretty extensively. I think we're comfortable conveying to the market our intentions with this amount of specificity. It does allow markets to anticipate what we're going to do. It allows market prices to move in advance of our purchases even, and we see that as productive—it just pushes markets more quickly to the outcome that will be realized from the purchases.

The current procedure doesn't give the distribution and doesn't announce the size of our operations, so market participants have to infer that and then infer whether that will be maintained going forward. As a result, after a month or two of the program, under LSAP1 or under the reinvestment program, the primary dealers have been able to figure out generally what we intend to do, but it took two months of watching and uncertainty until they got to that point. Here we're just going to accelerate that and let them know up front what we intend to do. The only potential cost, in our thinking, is that it might be confusing if we have to change the

distribution, but we think we've guarded against that by having language in here indicating that we retain the option to change the distribution.

A potential risk relates to the individual operations. If we are announcing sizes, and if something is going on in the market, it raises the risk of not being able to complete an operation of that size. Right now we don't have that issue, because we don't tell the sizes of individual operations, so that risk would be introduced by announcing the sizes. But we view that as a very minimal risk—the operations have tremendous coverage to date, and if there were some unusual strain in markets that made us worry about completing an operation, we probably would reschedule the operation anyway.

MR. LOCKHART. I take it you don't see any concern about stepping up the transparency of your guidance, while, at the same time, alternative B's statement, to some degree, steps up the conditionality and stresses that we're going to review this periodically and it could change. You don't see that as creating any confusion in the market?

MR. SACK. In the FAQs, we explicitly address this point and say that we will publish schedules based only on announced policy actions and directives from the FOMC, so that, if the directive were to change, then we would publish a new schedule. We had to be explicit about that, obviously, to avoid signaling. There may be situations in which an FOMC meeting is approaching and an action is widely expected, but we'll be publishing a schedule that is out of step with that, and we address that explicitly in the FAQs. We would just adjust our communications accordingly as the FOMC adjusts its policy action.

MR. LOCKHART. Thank you.

CHAIRMAN BERNANKE. President Rosengren.

MR. ROSENGREN. I just want to follow up on the schedule. If the Treasury were to change its debt management dramatically, or if foreign purchases were to change dramatically, you wouldn't be bound to keep the same distribution. You feel that you have the flexibility to make the adjustment without waiting until an FOMC meeting. Is that correct?

MR. SACK. That's right. The statement says, "The distribution of purchases could change if market conditions warrant," and we see that as general enough to encompass all of the possibilities you discussed.

CHAIRMAN BERNANKE. President Kocherlakota.

MR. KOCHERLAKOTA. Thanks. I was worried about the same point that President Rosengren is addressing, because I think the clause right after that undercuts that ability to adjust, right?

MR. SACK. That second clause, of course, tries to draw a line between Desk discretion and FOMC discretion. If the FOMC is content taking it out, the Desk doesn't have an issue with that. [Laughter] Again, it introduces just some flexibility by saying that changes will "not significantly alter the average duration"—that gives us some room.

CHAIRMAN BERNANKE. Did you have another question?

MR. KOCHERLAKOTA. No, that's fine.

CHAIRMAN BERNANKE. Okay. This is a livelier Q&A than usual in this round. We're about ready for the policy round. Before we start, let me make one observation. As President Lacker mentioned, yesterday I spoke quite a bit about the asset purchases, and this, obviously, is an issue that most people are focused on. There is an alternative or complementary measure on the table, which is the language in alternative A, paragraph 4, giving additional commitments about our policy rate. Personally, I am open-minded about that and about whether

to do something soon or in the future. I just wanted to say that, if anyone wants to add comments on that issue or that approach as an alternative or a complement to other approaches, that is, of course, welcome in this round. Let me start with President Rosengren.

MR. ROSENGREN. Thank you, Mr. Chairman. As I suggested yesterday, my forecast is that unemployment will remain at 9 percent or higher throughout 2011, resulting in continued disinflationary pressure. Further disinflation is not only inconsistent with my target, but it also would imply a tightening of short-term real rates at a time when I believe we should be easing. The continuation of large misses on both elements of our mandate through the forecast horizon provides ample reason for further monetary policy accommodation.

I am in favor of alternative B. However, under alternative B, my expectation is that we would complete the entire purchase of \$600 billion in securities, unless incoming data indicated that we would achieve both elements of our mandate within the forecast horizon—an event I view as, unfortunately, quite remote. I also view alternative B as providing an easing bias. Unless we make significant progress on both elements of the mandate, that is, if the outlook continues to imply slow and meager progress towards both elements of the mandate, I would favor serious consideration of additional asset purchases following the round that I hope we will approve today.

A serious mistake made by the Japanese was that they moved slowly and methodically to address, first, the disinflation, and then the deflation once they hit the zero bound. I do not want our monetary policy to make the same mistake. We should make clear in both our language and our actions that we are resolute in achieving both elements of our mandate.

In terms of alternative A, paragraph 4, I would just say that I wouldn't want it to be a substitution for the policy; if anything, I would want it in addition.



CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. As I said, I appreciated your remarks yesterday afternoon. During those remarks, you noted that many of us, if not all of us, are nervous about this policy, so please count me in the nervous camp. In fact, count me in the too-nervous-to-support-alternatives-B-or-A camp. I will explain why I'm nervous and then comment briefly on the language that we might use if we elect to move today.

First, as I mentioned yesterday, I don't believe the benefits of further monetary stimulus would be terribly large. In a nutshell, I think inflation is not too low, the risk of deflation is quite small, and very little additional real growth would result. I don't need to elaborate, because these notions are consistent with points that several others around this table and I have been making for some time, namely, that it looks as if economic growth is slow now for reasons that monetary policy can and should do little to ameliorate. In addition, I find it disconcerting that, according to the Tealbook, something like two-thirds of the improvement in the growth outlook seems to be attributable to the net export effect of the reduced value of the dollar. Given the climate of international discourse regarding currency valuations—and I recognize that some around the table are more expert in this area than I—my sense is that it wouldn't be helpful for us to be seen as stimulating economic growth primarily through currency depreciation. Moreover, the growth effects in that channel could be dampened to the extent that other central banks adjust their policy in response—a factor that I understand isn't taken into account in the box on pages 4 and 5.

Second, I think the risks of providing further stimulus at this time are substantial. The fact that the effects are likely to be so small adds to those risks. While inflation has downshifted over the last two years, to be sure, I seriously doubt whether we would be considering more

quantitative easing if it weren't for the elevated level of the unemployment rate. So, in that sense, I think it's fair to say this is mostly about unemployment, and I think that's how markets are going to read this. More quantitative easing right now would imply more influence over the unemployment rate than we actually have, and would promise more improvement in unemployment than we are capable of delivering. The precedent this sets would bias our reaction function toward unemployment, both in our actual reaction function and in the public's perception of it. As a result, people are likely to expect increasing monetary stimulus as long as the level of the unemployment rate is disappointing, and that's likely to be true for a long, long time.

This asset-purchase program is predicated on the notion that inflation expectations are stable enough that we have the leeway to provide additional stimulus. This may look like a pretty safe bet right now, with inflation low and expectations near the center of recent ranges. But if economic growth doesn't seem to respond rapidly enough to our efforts, as I suspect will be the case, we inevitably will be tempted to risk an inflation uptick by doubling down on the program size. Moreover, the path we are taking today could put us in a difficult quandary in the not unlikely scenario that inflationary pressures build up before unemployment is judged to be acceptably low. Inflation expectations could be much more difficult to restrain then, if we are seen as having tilted towards unemployment.

For me, this poses unacceptable risks to price stability and to our credibility. Those risks might not materialize this quarter, they might not materialize next quarter, or next year, given where inflation is right now, but we know that there will come a time in this recovery when the amount of reserves we are supplying right now would be too much and would set off an acceleration of inflation. When that time approaches, unemployment could well be higher than

we and many others would like to see it, and, at that point, I fear today's decision and the expectations it encourages will come back to haunt us.

I have a comment on the language in alternatives A and B, paragraph 2, which I offer up in the spirit of how to provide stimulus, if you must. It has to do with the second sentence in paragraph 2, which describes unemployment as elevated and inflation as somewhat low relative to levels consistent with the dual mandate. I think we all agree with the obvious point made by President Bullard at our last meeting, namely, if we're conducting monetary policy in a way that is ideal, evaluated against our statutory mandates, then it will be the case that unemployment and inflation are at times different from their target values—that is, their long-run average values or the value to which they would converge over time in the absence of further economic shocks. And that seems like a pretty clear and generally accepted point about how we do policy. The second sentence in A2 and B2 seems to imply that the current levels of the unemployment rate are inconsistent with our mandates. I don't think it's true that the current levels of unemployment are inconsistent with us conducting a policy in a way that's optimal vis-à-vis our mandates. We're obviously debating what to do to continue to be optimal relative to our mandates, but this isn't just a semantic point. This language encourages people to view us as failures or as having fallen short whenever unemployment is even moderately high, and that's essentially a view of policy as a series of static, one-time problems. We disposed of that viewpoint several decades ago, as you know. Instead, the viewpoint that President Bullard was sketching, the modern one, is that economies are hit by shocks. There are important intertemporal interdependencies, which means that you set policy over time such that the economy responds in a way that is optimal against our goals. In other words, with no shocks, the convergence back to steady state would be at an optimal pace. You can debate what an optimal

pace is, and that is something that is at the heart of the judgment of what monetary policy is about. But it's about the pace of return to those average long-run values or ideal values, it's not about the level against those ideal values.

We should find a way, I believe, in minutes or testimony, to convey the sense of—and here I will use some geeky language—what optimal policy means in a stochastic equilibrium, which is what President Bullard was talking about. Until then, though, I suggest we end the second sentences after the word “low,” so that it reads, “Currently, the unemployment rate is elevated, and measures of inflation are somewhat low.” That does the job. It deletes the clause pulling in our mandate, but the first sentence of the paragraph prominently mentions our mandate. Moreover, the third sentence is the one that characterizes our assessment of policy in terms of the pace at which we're getting back to where we want to be, namely, that progress is too slow. With that suggestion, I thank you and conclude my remarks, Mr. Chairman.

CHAIRMAN BERNANKE. I have a comment and a question. Obviously, we're not saying that, if at any point in time, we're not at the mandate, then the policy is wrong—clearly, we don't want to say that. The last sentence in the paragraph is intended to capture that point. It says that we anticipate a gradual return to appropriate levels of unemployment and inflation, but we judge that progress has been unacceptably slow.

MR. LACKER. Right. It does the job.

CHAIRMAN BERNANKE. Right. That tries to capture the notion you have. Let me raise another point, and maybe others would want to comment. One additional way also to address your concern would be to revise the second sentence. In that sentence, we struck out the phrase “over the longer run.” We could instead say, “The unemployment rate is elevated, and measures of underlying inflation are somewhat low relative to levels that the Committee judges

to be consistent, over the longer run, with its dual mandate.” In other words, this is the long-run target in some sense, but not the instantaneous. Does that help at all?

MR. LACKER. It just doesn't seem to me that, given the third sentence, we need to be judgmental in the sentence that talks about levels of unemployment. “Over the longer run” with the unemployment rate, as I said last time, is kind of problematic.

CHAIRMAN BERNANKE. That's why we struck all this language we had in the videoconference, because we couldn't come to agreement on how to characterize it.

MR. LACKER. Yes, I know. Is this the long-run average? I don't think so, right? In the absence of shocks, it would converge to something that's at the lower end of its range, so it's a concept that needs more explanation. And I'm not sure why you need to talk about the mandate a second time in the second sentence.

CHAIRMAN BERNANKE. President Evans, did you have a question?

MR. EVANS. Well, I just wanted to ask a question and offer a reaction to something that has come up at the last several meetings. I second the proposal of characterizing what optimal policy is in some way that we could better appreciate. President Bullard was absolutely correct when he pointed out that, after a big shock, optimal policy could well lead to fairly substantial gaps, or however you want to describe this outcome. But it's also the case that bad policy would lead to gaps like that, too, and we need to understand why the current situation should be characterized as optimal and not simply bad. [Laughter] I mean, there is just a presumption here.

MR. BULLARD. Can I just clarify?

CHAIRMAN BERNANKE. President Bullard.

MR. BULLARD. I just said that merely saying that unemployment is high and inflation is very low doesn't tell you anything one way or the other about the quality of the policy, so that's consistent with what you're saying. It could be that we are following completely horrible policy, but we can argue that.

MR. LACKER. My point was that we don't want to lead people to believe that, if unemployment is ever high, it's because we have failed and are doing bad policy. You'd agree with that, wouldn't you?

MR. EVANS. I second the proposal for clarity on all of these objectives.

CHAIRMAN BERNANKE. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. Like President Lacker, I do not support another round of asset purchases at this time. The economy has been through a soft patch this summer, but it appears to be emerging from it. Economic growth over the next three years is expected to be modestly above trend in the Tealbook. Employment is expected to pick up, although at a painfully slow pace. And inflation is expected to accelerate gradually.

In my view, the LSAP program is an unconventional policy tool that is likely to be most helpful when inflation and the forecast of inflation are falling, when there is serious risk of inflation expectations becoming unhinged and falling, and when we're operating at the zero bound. I might well support it if all of these conditions were met, but they aren't, in my forecast. It seems to me that if we were in that position, our communication would be much different from what we are currently considering. In particular, I would focus explicitly on our inflation objective, on what we think inflation expectations were, and our goal would be to support those, because that would support the real economy. But even in this case, there may be better, more effective, and less distortionary tools at our disposal, and I will return to that in a moment.

In terms of our current approach to LSAPs, I have some deep misgivings. Some of the memos and discussions seem to view LSAPs as a conventional policy instrument that can easily be translated into short-term interest rates and, thus, rationalized in terms of a more normal policy rule. I'm strongly in favor of rule-based policies. My assessment is that we have little theory or evidence to guide us in constructing such a rule for these unconventional policies. And what we do have seems to me to be subject to skepticism. Certainly, in the Eggertsson-Woodford model, for example, asset purchases would be irrelevant in escaping from such a liquidity trap.

I think it would be a mistake to convey to the public that we know how to fine-tune an asset-purchase program to achieve our objectives when, in fact, we don't. We need to be humble about what we know about the effects of an LSAP program on the economy and on inflation expectations. Moreover, we risk undermining both business and consumer confidence if a renewed and particularly large LSAP program is viewed as a signal that the recovery is unsustainable or that the economy is worse off than they already think it is.

I'm also concerned about the economic and political costs associated with unwinding all of the LSAPs that we have already done to date, much less adding more. These uncertainties suggest to me that, in the current environment, the potential costs of such a program outweigh the meager benefits outlined in the Tealbook. Again, given these very small anticipated benefits, we should be even more focused on the downside risks of this program. I'm concerned that we have too quickly presumed that the cost and risk are close to zero. What if we're wrong? Doing something because we can is not a good way to conduct policy, even when the state of the economy seems unsatisfactory, nor is doing so because the fiscal authorities won't act. It's akin

to asking your dentist to do your heart surgery, because your heart surgeon is on the golf course.

[Laughter]

These policies can set dangerous precedents in their own right, create their own form of moral hazard, and create potentially outsized political risk for us. Trying to use highly uncertain monetary policy tools to conduct policies that are better addressed with fiscal policy is, to use an expression that President Hoenig has used recently, perhaps a bargain with the devil.

In my mind, the costs outweigh the benefits. So I'm supportive of alternative C, of the choices we've been given. But I acknowledge that this is not the prevailing view of this Committee at this point, and others may very well disagree with my assessment. But if we are to proceed, I think we need to improve our communication and ask ourselves a number of important questions.

First, I think we need to be clear about what we expect the transmission mechanism to be. If the effect we seek is on inflation and inflation expectations, then we need to say that very explicitly, yet we continue to talk about lowering longer-term nominal interest rates. However, if we were effective, perhaps longer-term interest rates would actually go up. We traditionally do a very poor job in this Committee of distinguishing between real and nominal interest rates in our communication, and I think this is a case where that may be particularly important. If we focus too much on the unemployment rate and the unemployment path, and if it fails to improve noticeably, we could do appreciable harm to our credibility and/or be led, as President Lacker was suggesting, to ever-increasing balance sheets as we chase a goal that we can't achieve.

Second, we need to be clear about what we are conditioning the LSAP policy on. It's all well and good to say we will regularly review the policy in light of incoming information and adjust policy appropriately. But I think our communications would be more effective if we



provided a better sense of what information we're looking at. For example, suppose the Tealbook forecast plays out just as written in the second quarter of next year, with a growth rate of 3.4 percent, unemployment rate at 9.5 percent, and PCE inflation at 1 percent. Would the Committee members who favor asset purchases today take this as evidence that the program is working, as the Tealbook would suggest, or would they be inclined to do more purchases if they saw those outcomes? Perhaps it would depend on some factors other than those key instruments—maybe it would depend on the level of longer-term nominal rates, maybe it would depend on inflation expectations. In any case, we need to be explicit about what we think those factors might be and how they would guide us in our policymaking. If the economy looks appreciably better in the first half of next year than forecasted with the policy effects, would the program be interpreted as being more successful than we thought it was? Or would we interpret the economic improvement as a sign that the policy is no longer needed? Would we then be inclined to shrink the balance sheet, if output turned out better than expected?

Given that we have so little basis for a rule under these circumstances, I think we need at least a better sense amongst ourselves of how we'll adjust policy over time, what indicators will guide us, and what the scale and the pace of such asset-purchase programs will be. What do we need to see happening to stop purchases early or to increase purchases? Once we have a better understanding of our own thought processes, we can convey a better sense to the public and the markets and be more disciplined in our approach to policy. That's why these considerations, at a minimum, suggest that the language we need says that we'll engage in policies of "up to" \$600 billion, if we really think we're going to be reevaluating it along the way.

Third, before embarking on a new round of asset purchases, it also seems prudent to have further serious discussions about our exit strategy. In particular, how will portfolio-balance

effects play out during our exit? Presumably, if we aren't selling assets, the size of our balance sheet will sustain such portfolio-balance accommodation. That might suggest that we would have to raise the fed funds rate faster than otherwise in order to offset the effects of this built-in large balance sheet and the portfolio-balance effects. This also plays on the other side of how we pick the size of this program. It seems to me that many of us have talked about setting the size of the program in terms of its effects on the Taylor rule, for example, in lowering the funds rate when we're at the zero bound. Yet I don't see that those calculations account for the fact that we've already done nearly \$1.8 trillion of asset purchases.

CHAIRMAN BERNANKE. Yes, those are included.

MR. PLOSSER. Pick a number for asset purchases, say, \$600 billion. If we believe that that amounts to a move of 100 basis points for the funds rate, then we've already done the equivalent of 300 basis points in terms of the funds rate going into this, and this would be lowering it yet another 100 basis points. The calculations of the Taylor rule don't make that adjustment. When you calculate the Taylor rule, it doesn't tell you that you've already done 300 basis points worth of easing.

CHAIRMAN BERNANKE. Yes, it does. The calculations that were done in that memo already take into account the purchases we have made in making that assessment. In the Leahy memo that was circulated at the videoconference.

MR. REIFSCHEIDER. The October 15 Kiley et al. memo.

CHAIRMAN BERNANKE. Sorry, the Kiley memo.

MR. PLOSSER. I'm sorry. I was thinking about the numbers in the Tealbook from the Taylor rule.

MR. WILCOX. It was in the framework memo.

MR. PLOSSER. I stand corrected, then, if that's true. I lost my place here. In any event, I think we need to think clearly about both the scale that we have already done and how it will affect the economy as we unwind—if we don't sell assets, then the portfolio-balance effect of that stock of assets is negative.

Finally, let me note that I largely agree with President Nutter—I'm sorry, it was President Evans who was talking saying that. [Laughter] Excuse me—that just slipped out. I agree with him wholeheartedly on the importance of an inflation target. But, like President Kocherlakota, I'm unclear exactly how further asset purchases, which simply increase the amount of excess reserves we have in the banking system, would work. I have no idea how they would help raise inflation expectations in the short run. We already have sufficient excess reserves, and if those excess reserves flowed out into the economy as M2 or some other measure of liquidity, we have the kindling that has the potential to create a great amount of inflation. If we wish to affect inflation expectations, we might be more effective in emphasizing this actuality and the prospects for higher inflation in our communications.

Better still, we might think of using other tools to increase the money multiplier and encourage banks to put their excess reserves to different uses—this is related perhaps to President Lacker's discussion earlier. For example, we might consider enhancing the transmission mechanism by raising the interest on required reserves to 50 basis points and lowering the interest on excess reserves to zero. We've paid zero interest rates on excess reserves for most of our history. By creating a wedge between required reserves and excess reserves, we might encourage some of those huge amounts of excess reserves that are in the system to move out into assets of various classes, and let the markets take care of it rather than

forcing us to do something along those lines. So I think we need to consider other ways of enhancing what we've already done.

In closing, I agree it would be a surprise if the Fed did not do LSAPs today, given the recent speeches. But that isn't a reason, in my mind, to implement an inappropriate policy whose costs may outweigh its benefits. The Committee should be setting appropriate policy, and the markets will adjust, not the other way around. Moreover, our focus should be on the intermediate to longer run. Short-term interests of traders, marketmakers, and the dealers we're so fond of surveying about our policy choices may well be at odds with the longer-run policy objectives of the broad economy. After all, isn't that one of the reasons for our independence, namely, to keep that longer-term focus? Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you, and I apologize for interrupting you. Next is President Pianalto.

MR. PLOSSER. I was confused.

MS. PIANALTO. Thank you, Mr. Chairman. I support alternative B. I see the additional asset purchases as appropriate insurance during a challenging phase of the recovery. My baseline forecast hasn't changed meaningfully since our last meeting. I still expect output growth to remain weak to moderate and inflation rates to remain well below the levels that I would consider consistent with our price stability objective.

On several occasions in the past, after a long sequence of federal funds rate reductions, with a gradually improving outlook, the FOMC still chose to lower the fed funds rate as an insurance policy to reduce the likelihood of worst outcomes. Although the alternative scenarios for further asset purchases described in the Tealbook suggest limited impacts on the real economy, a decision at this meeting to go ahead with some additional policy accommodation

should help to limit further disinflation. I think there is some insurance value to be derived from solidifying recent progress and moving inflation expectations higher and closer to our long-run inflation objective. I was concerned when financial market estimates of inflation expectations appeared to be dipping following the September meeting. Inflation expectations have since recovered. I view this as evidence that additional accommodation will help to lock in some of the progress that we've made to date in moving inflation expectations up toward our price stability objective.

Also, with inflation already so low, particularly for CPI-based measures, I think some insurance against further declines in inflation and inflation expectations is appropriate. It's true that not all of the insurance moves exercised by past Committees were viewed as necessary after the fact. However, it's also true that some insurance moves taken by past Committees when the economy seemed to be doing better sometimes turned out to have been insufficient. Determining when to do a little more, or when to stop, is never easy. But I can support additional accommodation to help stabilize inflation expectations. Following such a strategy also enables us to do what we can to support an improved employment picture.

On the statement language, I am concerned that in the minutes of our September meeting we indicated that we discussed providing a policy framework for further accommodation. But it was evident during our videoconference call that finding a compromise for a framework is proving to be challenging. In its current state, I see the language in alternative B as providing only the most general feedback mechanism for guiding policy adjustments.

One way to provide a feedback mechanism would be to modify paragraph 4 from alternative A and insert it into alternative B. I would simplify the language around the inflation outlook and make unemployment the last item in the list. My proposed language for paragraph 4

would read, “The Committee expects to maintain the target rate for the fed funds rate at 0 to ¼ percent at least until mid-2012, so long as the Committee’s outlook for inflation in the intermediate term remains consistent with its mandate, longer-term inflation expectations remain well anchored, and the unemployment rate remains elevated.” Language along these lines helps to link potential policy changes to inflation and inflation expectations, in addition to unemployment, which we all expect will remain elevated beyond 2012. By providing this feedback mechanism, we can help to stabilize inflation expectations around our price stability mandate while also acknowledging our mandate for full employment in the long run. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Fisher.

MR. FISHER. First, let me say that I was pleased with the comments made yesterday by Board Vice Chairperson Yellen, especially those regarding the importance of listening during these conversations and not making prejudgments. At the same time, I listened very carefully to what you were saying yesterday, Mr. Chairman. I understand the direction that we are headed in. I would ask that we do listen to each other very carefully here, and I would like to say that I am deeply concerned about proceeding with further quantitative easing. I understand the logic. The goal is to drive down longer-term interest rates in hopes of stimulating loan demand, offsetting the propensity I reported on earlier for economic actors to hoard rather than invest. Another desired benefit, as you outlined it yesterday, Mr. Chairman, is to devalue the dollar to stimulate demand for our exports—and I don’t think we should ever say that publicly. And to one of you that I discussed this matter with, and whom I hold in the highest regard, it implies that we would also help ward off protectionism. The ultimate objective, of course, is to advance final demand and general employment for American workers, and to promote output growth.

We are indeed in a liquidity trap or a bog, as Governor Tarullo says. We already have low interest rates, and spreads against risk-free instruments are historically narrow. Variations in interest rate levels are clearly not driving loan demand. Loans are desirable and businesses borrow when they see an opportunity for a return on investment. Even at the low rates that already prevail, businesses lack confidence in the prospect of earning a superior ROI by investing so as to expand their domestic workforce, in comparison to what they might earn from alternative investments abroad or by buying in their stock or cleaning up their balance sheets. Consumers borrow when they believe it makes sense to shift consumption forward. But after the sobering experience of the last three years, they are inhibited from doing so by a lack of confidence that their income streams in the future will be sufficient to cover their payment obligations.

On the supply side, we know that businesses are floating on a sea of liquidity. Banks already hold over \$1 trillion in excess reserves with us. Their holdings of government securities as a percentage of their total assets are growing, as pointed out by Governor Duke in her comments yesterday. Loans, as a percentage of assets, are declining. If we had a level of bank reserves or liquidity in the marketplace that was binding or inhibiting loan growth, I could understand the impulse to relieve that stricture. Incidentally, I hope we can succeed, as you indicated, in getting away from the expression “QE,” but I doubt it.

I have no doubt that asset purchases will increase the level of bank reserves, they will lower rates marginally in the short term, and they will add more liquidity to the markets, meanwhile weakening the dollar. The question for me is whether this works to the benefit of job creation for American workers and helping those most in need. You spoke in Jackson Hole, Mr. Chairman, of the need to weigh the costs and benefits of further accommodation. Yesterday you

expanded upon that, and you acknowledged some of the costs. But, like President Lacker and President Plosser and his referencing President Hoenig just now, I'm skeptical about many of the presumed benefits of further QE. However, I'm certain of some of the costs. One cost will be the risk of placing our quasi-independence in jeopardy. We know that once a central bank is perceived as targeting government debt yields at a time of persistent budget deficits, the concern about debt monetization quickly raises its ugly head. I expect the propensity to draw that conclusion has been enhanced by this congressional election. Indeed, I believe that if the statement we discussed with Brian is unedited, we would be waving a red flag in the face of those who are our most volatile critics.

I realize that there are two other countries that are engaging in quantitative easing. As you know, I just don't buy the analogy between the U.S. and Japan. Let me give you a statistic, not for humor but to put this in perspective. More adult diapers are sold in Japan than children's diapers. It's an aging society that is in no way comparable with the United States. So the QE that I look at is that of the Bank of England. But Governor King is offsetting the QE with an announced fiscal policy tightening that out-Thatchers Thatcher. That is not the case here—here, we suffer, just to stay with my diaper analogy, from fiscal incontinence. If this were to change, then I would make a case for accommodation, but that is not yet happening. And by providing monetary accommodation, I would suggest we are reducing the odds of fiscal discipline being brought to bear.

I also see a risk of quantitative easing being accepted as the new normal. Everything we know from monetary history tells us that, in times of crisis, we should open the flood gates. That is Bagehot 101. We did that. It worked to pull us from the maw of financial panic and economic ruin. But this is neither a time of panic nor is it a time of emergency. If we were to come to be



perceived as applying QE as part of our normal policy toolkit, I'm willing to bet that the markets will expect more, as was referred to earlier. And, by the way, Nouriel Roubini is not alone in predicting QE3 and QE4. Quantitative easing is like kudzu for market operators—you're familiar with this analogy because you're a southerner, Mr. Chairman—it grows and it grows and it may be impossible to trim off once it takes root in the minds of market operators.

I might understand the case for accommodation if serious deflation were a clear and present danger. It is not, as I pointed out yesterday by citing the trimmed mean and by giving my anecdotal reports. I should add that, thanks to your leadership, Mr. Chairman, and the support of this Committee in engineering the liquidity measures implemented during the panic of 2008-2009, and by avoiding the policy errors of the 1930s, serious deflation has not happened—neither M2 growth nor inflation has fallen off the cliff. And while nominal growth is less than desired—I have actually trimmed back my estimates for the next several years—and is very painful, nominal income is growing, however, incrementally. It's not shrinking.

I'm skeptical about the purported benefits of a weaker dollar in exchange markets. Much of what we export is in the form of high-yield goods and services and in commodities like soybeans, for example, which we produce with enormous efficiency. As Nathan pointed out, the recent statistics indicate that much, though certainly not all, of what we import is used to clothe and support lower-income earners, the very people who are suffering from high unemployment and lack of job creation, whom we endeavor to help as part of our dual mandate.

The Walmarts, the Dollar General Stores, the Costcos, the Michaels, and other stores where the most affected people buy necessities are faced with a further squeeze on their margins, and they will likely react to higher import prices by driving productivity even harder, which means selling more while employing even fewer workers. As to warding off protectionism, from

what I've learned about that dynamic by serving as the Deputy U.S. Trade Representative, much depends on the skills of the Chief Executive and congressional leadership. And when push comes to shove, Presidents and good congressional leaders tend to steer the Congress away from its baser instincts. Dollar depreciation, however, if viewed as a deliberate intention of U.S. government policy, will work against us in terms of the rules-based system we have at the WTO and other rules that we have to limit the potential damage of protectionism.

As to the proposition that higher prices of financial assets will liberate those most in need, I wonder if this is, indeed, true. We're already seeing the beginnings of speculative activity in stocks and bonds and commodity markets and buyouts, and the rich are getting richer. Woody Allen said once that being rich beats being poor. Well, that's true. It's not funny, however, and I find no delight in it, and I see considerable risk in conducting policy with the consequence of transferring income from the poor, those most dependent on fixed income and the saver, to the rich. Senior citizens and others who saved and played by the rules are earning nothing on their savings, while big debtors and too-big-to-fail oligopoly banks benefit from their subsidy. Now, outside of monarchies, I know of no democratic system, and certainly no President on the right or the left, who would tolerate that kind of policy, let alone advocate it. And I expect a reaction against it that might lead to political retribution against us.

Then, there's the issue of exit policy. The more we engage in quantitative easing that moves us further out the yield curve and the more we load our balance sheet with price-sensitive assets, the greater the likelihood of our realizing a loss on our holdings. So I ask you to consider the prospect of appearing before a House Banking Committee in, say, 2013, to report that the central bank of the United States has generated a loss—this is a tail risk, but I think we need to consider it. We believe the loss is not likely to happen. We believe, according to Brian's

excellent briefing—and, by the way, we appreciate what you do even though we beat up on you so often—that we can cover losses through the stream of income. But there should be some more sensitivity analysis done on this front and not just a single point analysis of a 100 basis point reversal.

The Committee might consider that we could be prescribing the wrong medicine for the ailment that our economy is suffering. Liquidity and abundant money are not the binding constraints on economic activity. The binding constraints are uncertainty about income and future aggregate demand, the disincentives fiscal and regulatory policies impose on decisionmakers, and the reluctance, given those disincentives, of employers to create jobs for our American people. The remedy for what ails the economy is in the hands of the regulatory and the fiscal authorities, not the Federal Reserve, and throwing another \$600 billion to \$1 trillion at the economy to see if it will generate a spark in the engine of the economy is, in my mind, a questionable tactic. We are uncertain that it will lead to behavior that creates jobs or spurs final demand. We can be certain that it will lead to a declining dollar that will encourage further speculation, that it will promote commodity hoarding, that it will accelerate the transfer of wealth from the deliberate saver and the unfortunate to the more well-off, and that it will place at risk the independence of this great institution.

Therefore, Mr. Chairman, I respectfully recommend that we not engage in any further quantitative easing, regardless of market expectations that we have created through our public statements. Now, I expect the Committee will decide that the benefits of further accommodation outweigh the costs that I have outlined. And, like the Texas Rangers, I will be gracious in defeat. However, I do ask that we leave some room for adjustment in this endeavor in the case of an adverse reaction. I have some editorial suggestions. If you decide to adopt alternative B—and I

want to record that I am firmly against it—I'd first reiterate my suggestion regarding Brian's statement; specifically, to keep the markets from front-running us, I'd suggest using the phrase "up to" before the term "\$600 billion" or "\$75 billion," or whatever the number is in A or B.

I would also suggest that, in paragraph 3 of B, we change the words as follows. Keep "To promote a stronger pace of economic recovery," because, after all, that's what we are trying to do—we're trying to increase employment and decrease unemployment. But then strike "and to return inflation, over time, to levels consistent with its mandate," and say instead "while maintaining the firm commitment to keep inflation within levels consistent with its mandate." I would do the same in the first sentence in paragraph 5, after it says "to support the economic recovery." I would say, "...and to maintain inflation within levels consistent...." The reason for that is that I'm a firm believer in the dual mandate, but I know that it's not just people of Tea Party inclination, but very serious critics, like Paul Volcker and others, who worry that we might overemphasize one mandate at the expense of the other. I'm a believer in the dual mandate, but I think we have to be mindful of the fact that there is a fear in the marketplace that there might be inflationary consequences of our actions. Emphasizing twice that we will maintain inflation "within levels consistent with our mandate" is the way to word it.

Returning to Brian's statement, in the first paragraph I would recommend "up to" an additional \$600 billion, and "up to" \$850 to \$900 billion, and "up to" \$110 billion per month. In terms of your 35 percent rule, I'd say that the Desk may be allowed, on occasion, to move above 35 percent. The reason for that is to keep the market slightly on its toes and to prevent front-running, and to give us a little leeway. I also would like the "up to" phrase in there, because otherwise we're binding next year's Committee. That may be something some desire to do, but I don't think it is the proper thing to do. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. May I just make sure I understand your suggestion on inflation? You said “To promote a stronger pace of economic recovery while maintaining inflation within levels consistent with its mandate.”

MR. FISHER. “While maintaining its firm commitment to keep inflation within levels consistent...” I think that would be reassuring to the marketplace and also reassuring to our critics, who, I think, are going to turn up the volume.

CHAIRMAN BERNANKE. Okay. President Hoenig.

MR. HOENIG. Thank you, Mr. Chairman. Today I know the Committee will adopt some version of alternative B as it goes through this process. The markets are, as I said yesterday, 100 percent certain, and so am I. And Bill English has appropriately outlined the market’s reaction should we fail to act on alternative B, and that’s unfortunate and unpersuasive to me.

I acknowledge that we all want what is best. Certainly I do, and so I hope the Committee is correct and that I’m wrong. I strongly disagree with the course being charted here today. The Committee takes this action expecting it will incent portfolio adjustments, thus changing relative prices and somehow spurring aggregate demand. This will stimulate gross domestic product and reduce unemployment, as we pursue maximum employment; support higher but stable inflation; support lower but stable long-run interest rates; and support stable long-run growth—all desirable outcomes. I, in contrast, see other outcomes, and they’re not unprecedented. We have experienced them here recently. They’re long-run consequences. We may see some short-run improvement, but not long run. There will be, I’m sure, in the end, a lot of givebacks. Experience tells us that.

This course sows the seeds of instability, in my opinion. We'll get more portfolio adjustments. We'll get, I think, portfolio distortions. We may get some stimulus, but we'll also get asset price inflation. And we'll get higher longer-term inflation expectations in time as we continue on this course. We'll have more fragile, less stable GDP growth, and more fragile, less stable employment in the future, even though we may get some temporary reductions in unemployment. The economy is undergoing major and unavoidable rebalancings from past actions. That includes the deleveraging of consumers and financial institutions encouraged by a period of very low interest rates. Even though we are going through these adjustments, the economy is expanding.

For reasons I have given in prior meetings this year, I believe our funds rate target should be low but not zero, to encourage a better resource allocation than zero will get us. Still, I clearly do not agree that we should undertake another LSAP. In the most general terms, the purported benefits are small and the risks are large, and I'll outline three that are of particular concern to me. And I'll state that my overall concern focuses on the longer-run effects of well-intentioned short-term actions, the accumulation of small effects that will eventually lead to problems.

First, without clear objectives, we're likely to keep the funds rate too low and our balance sheet too large, leading to further misallocations of resources and more imbalances down the road. Notice that I have said nothing yet about inflation. Under an LSAP program, would we continue asset purchases until the unemployment rate is 9 percent, or maybe 8 percent, or maybe less? Would we continue until near-term inflation rates climb to 2 percent or 3 percent, so we get an average rate that we would like? Would we aim to reduce the 10-year Treasury rate to 2¼ percent, or maybe 2 percent, or less? We will chase an open-ended commitment, I think, over time that introduces additional uncertainty and volatility into an already chronically

uncertain business environment. Also, I agree that the tools are available, as has been pointed out here, to reduce excess reserves when the time is appropriate. I do not believe that we will act at the right time or at the right speed—that's our practice—because the Federal Reserve doesn't have a good track record of withdrawing policy accommodation in a timely manner, no matter how much we say we will.

Second, we risk undermining the Federal Reserve's independence, in my opinion. When we are a ready buyer of government debt, we become a convenient source of cash for fiscal programs. During a crisis, that may be justified, but as a policy instrument, during normal or recovering times, it is a very dangerous precedent. Moreover, by purchasing \$600 billion of Treasury securities, with the projected 2011 budget deficit of \$1 trillion, we appear—and I use that word advisedly—to be monetizing more than half the deficit.

Third, I think adopting another LSAP program risks over time letting inflation expectations become unanchored, no matter our admonitions to the contrary, thereby undermining our credibility. One of the objectives is to raise inflation in the near term while maintaining longer-run inflation expectations at about 2 percent. That's a policy that amounts to fine-tuning inflation expectations—a variable we cannot precisely or accurately measure—and it could easily lead to greater uncertainty and volatility and untimely higher inflation expectations. Moreover, with the balance sheet approaching \$3 trillion, we risk undermining the public's confidence in our commitment to long-run price stability, as well as contributing to inflationary expectations becoming unanchored and encouraging speculative investments—that's almost certain. I believe that, by monetizing the deficit and by having long-run inflation expectations rising more than planned, we risk undermining our credibility as a central bank. In time, we

could see longer-term Treasury rates rise rather than fall, thereby negating one of the purported benefits of the policy.

While I agree that unemployment is too high, I do not agree that inflation is too low or that there is a serious risk of deflation. Moreover, since the economy is recovering, it is most likely that the maintenance of the exceptionally accommodative policy rate that we have had so far will lead, over time, to moving our economy forward. If we ease further, or if we leave the accommodation there too long, we will overshoot, and that's not consistent with our long-run mandates. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. It's 11:00. I understand that coffee is ready. Why don't we take 20 minutes for refreshments?

[Coffee break]

CHAIRMAN BERNANKE. Let's recommence. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. I don't know if it's great to be speaking after the break when everybody's on a sugar high from the doughnuts. [Laughter] I support the policy action in alternative B. I also support the implementation approach detailed in paragraph 3 of alternative B. I think it's appropriate at this time to respond to evidence suggesting that the risks of further disinflation remain elevated. I think risk management is the justification for the action, an insurance policy that has the intent of taking deflation risk off the table.

As I said in the economy round, my sense is that the headwinds restraining the economy and the structural adjustments required may make further monetary stimulus through an LSAP program less effective than we would like. I think it's important, therefore, to be measured in our expectations about how much further stimulus can accomplish in the current environment. There's simply a lot of uncertainty associated with this policy action.



I prefer an approach that preserves flexibility and stresses the conditionality of the policy and does not lock us into specific triggers for future action at this time. I think paragraph 5 serves to make it clear that the pace and size of the program will be continuously evaluated as the economic outlook evolves. That said, I agree with the suggestion that discussion of the decision framework associated with conditioning would be useful. I also want to add that, even though it's not a consideration at this meeting, I remain sympathetic to the idea of using this moment to be more explicit regarding an inflation objective.

I am not entirely comfortable with the language in paragraph 2 of alternative B. It seems likely to me that changing the language to call out the unemployment rate specifically will inevitably invite the conclusion that we have a specific rate in mind and that we are introducing an unemployment target as a guide for future monetary actions. I'm sensitive to the fact that we are pursuing a dual mandate, of course, but, in my opinion, the language we have been using does appropriately honor the mandate. Specifically, I think the statement that "Measures of underlying inflation are currently at levels somewhat below those the Committee judges most consistent, over the longer run, with its mandate to promote maximum employment and price stability," makes it clear that we have a focus on labor markets. More importantly, it does so without risking overinterpretation of how much we can do about altering the path of the unemployment rate in the near or even medium term. Most of our forecasts suggest that the unemployment rate will remain above what anyone would call desirable levels, even after the pace of the economic recovery has improved. I think the current version of paragraph 2 in alternative B may well create issues in exiting from that language. The September language, it seems to me, still serves us well. But if the Committee feels the need to put somewhat more emphasis on employment, I would suggest something closer to the language in the initial version

of alternative B that was circulated last week. A streamlined version of that would say something like, “The pace of economic recovery would likely be too slow to make acceptable progress toward maximum employment, and underlying inflation likely would remain undesirably low for some time, posing risks to the economic recovery.” Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Evans.

MR. EVANS. Thank you, Mr. Chairman. On the whole, I favor greater monetary policy accommodation to reduce our dual mandate losses. The inflation outlook greatly underruns my assessment of our mandate-consistent objective, and resource slack is much too large. We need to provide monetary conditions that support a clear downward trajectory for unemployment sooner than what is in the current outlook. I favor additional quantitative easing along the lines described in alternative B. I might ultimately prefer a larger figure than the \$600 billion in alternative B, but the stated intention to adjust the program as needed provides sufficient scope for adequate additional actions. I would not really favor any language like “up to”—if anything, I might favor “at least” \$600 billion.

Having said this, I have a number of concerns about our strategy going forward. My bottom line is that we can do better by providing greater clarity about our intentions. There is reason to be skeptical that the magnitude of \$600 billion in Treasury purchases will have a large effect on long rates, and others have spoken on that. Although, Mr. Chairman, you made an excellent case last night, my own view is that LSAPs would be a more effective policy tool if they were combined with clearer communication regarding future monetary policy. Real interest rates will decline further if the public clearly understands that the LSAPs represent part of a concerted plan to get inflation at least up to our objective. Communicating our policy goals

would also clarify the conditionality of our “extended period” of low interest rates. This communication task would be much easier if we had an explicit inflation objective. Knowing our target, the public and markets could make credible inferences on their own about how long we will need to keep interest rates low. We then would not need to use complex language such as that in alternative A.

I continue to see big downsides to the status quo approach to describing our objectives. I worry that our qualitative descriptions only paper over significant differences in objectives. In the not too distant future, this qualitative approach will lead to much misunderstanding on the part of the public. Those of us who were around for the communication subcommittees over the last 10 years remember how difficult it was to construct a qualitative statement that survived the stress tests we imposed on them.

Let me use the current statement as an example of such problems. Consider the phrase “the unemployment rate is elevated.” First off, frankly, this seems a touch clueless to me at 9.6 percent, but I’m not going to talk about it anymore. Imagine how this language is likely to evolve over time. If unemployment goes to double digits, which modifier of “elevated” becomes appropriate? “Really” elevated? Next, what about when unemployment falls to 7.8 percent? Will it still be “elevated?” I think so. This is a tougher call. If it’s simply high, does that mean it’s less important? How will changes in modifiers be interpreted? It’s going to be an issue. I think a reasonable statement would be one that expresses dissatisfaction with the lack of substantial evidence of a downward trajectory for unemployment over the next 12 months; I haven’t studied it, but that sounds more like the earlier language, as President Lockhart just mentioned.

I also am nervous about the statement of flexible review in paragraph 5 of alternative B, in which the Committee will regularly review the pace and size of its purchases and “will adjust the program as needed to best foster maximum employment and price stability.” I agree with the intent, but I simply don’t know how the public can draw meaningful inferences about our reaction function from this statement without more clarity on our inflation and unemployment objectives. And our differences of opinion have already been raised numerous times this morning.

Finally, if you give any consideration to the view that today’s situation is both extraordinary and unacceptable, I don’t see how the “go slow” approach of Bill Brainard could be viewed as optimal or even best—I’m referring to some of the thoughts that you expressed last night, Mr. Chairman. Our misses are large. As I mentioned earlier, I think that bad policy would also lead to large misses. There’s great uncertainty about the effectiveness of our policy tools and whether they will enable us to begin the process of adjustment back to a better equilibrium.

Some people have used the term “geeky”—I prefer to call this “super rocket science.” [Laughter] The optimal control dynamics are screaming for robust approaches, that is, large, decisive actions in the face of potentially impotent tools. But I understand that the truly large actions are not on the table today. The reason I earlier poked at the language in alternative A that discussed inflation rising to our mandate levels is my concern about take-back risk, or smaller versions of 1937 risk. For our policies to be effective, the public is going to have to expect that we’re going to be easing for some time; that inflation is going to be returning to where it ought to be; and that maybe we might even overshoot a little bit. We can’t fine-tune that type of thing. I think it will be a big problem for us to get the economy moving towards escape velocity if the

public worries greatly that a risk-averse Fed will not follow through with adequate actions to meet the dual mandate.

In closing, I think your arguments, Mr. Chairman, for \$600 billion in LSAPs are very strong. It does have a little bit of a threading-the-needle feel to me, and I would much prefer to be more aggressive. Thank you.

CHAIRMAN BERNANKE. Thank you. First Vice President Moore.

MR. MOORE. Thank you, Mr. Chairman. I favor alternative B. I see two compelling reasons for resuming purchases of long-term securities at this point. First, we are currently falling well short on both of our mandates, and just as importantly, we've made no progress for more than one-half year now. Moreover, even if we achieve the consensus forecast for economic growth in the upcoming periods, progress towards achieving our mandates will be painfully slow. As shown in the Tealbook simulations, additional monetary stimulus in the form of asset purchases will help us reach our goals sooner. Second, I see a strong argument for taking out insurance against downside risks. For example, at our current levels of unemployment and inflation, further negative shocks to the economy would be very costly. Even in the absence of such shocks, there is a small but dangerous possibility that the slow trend of disinflation will continue, and we will slip closer to a Japanese-style period of stagnation. After all, deflation in Japan developed only after many years of grinding disinflation. I do recognize that further asset purchases carry some risks, but I believe that the benefits of this action, both in terms of meeting our mandate and of managing risks, outweigh those concerns. Thank you.

CHAIRMAN BERNANKE. Thank you. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. I remain concerned about doing more quantitative easing or doing another large-scale asset purchase. First, I perceive the

expected benefits of further—I'm going to keep saying “quantitative easing” because that's what I've written here—quantitative easing [laughter] to be small, especially in terms of inflation, but also in terms of unemployment. The forecasts on pages 4 and 5 of the Tealbook Part A strike me as consistent with this view. Second, I believe that quantitative easing may well have significant downside risks. I will not go through these in great detail. Others have spoken extremely eloquently about them: President Fisher, President Hoenig, President Plosser, President Lacker, all elaborated on these risks at great length and, I'm afraid, in a compelling way.

But I will talk about one risk. I think this is the most direct risk coming out of a large-scale asset purchase, because it's what the purchase is all about, namely, to take duration risk out of the private sector and transfer it to taxpayers—that is what the heart of the LSAP is. We have to be thinking about whom we're taking risk from and whom we're transferring it to. The essence of the LSAP relies on a segmented markets view of the world, where there are some people participating in bond markets and other people who have less access to it. The people who are participating in the markets are the ones who benefit from this. The ones who are not participating are the ones who don't benefit. This follows up on President Fisher's eloquent description of the distributional consequences of our policies. Typically I would think the people who are participating in asset markets are wealthier and more educated, while the people who are not able to are less wealthy, less educated. In addition, while staff work has been thorough and very compelling on the asset pricing side, the ultimate macroeconomic impact of this risk shift has remained murky to me.

Despite these concerns, and given your arguments yesterday, Mr. Chairman, and given the strength of consensus among the voters in the Committee, and I'll emphasize the word “voters” here, I'm willing to go along with alternative B. Let me talk about ways alternative B

could be strengthened. First, the word “unacceptably” in paragraph 2 seems to imply considerably more control over the recovery process than we actually have—I think we’re taking ownership for slow economic growth through that word. I would recommend the word “disappointingly” or more simply the word “too.”

Second, and more substantively, I would go along with President Pinalto’s recommendation of moving paragraph 4 from alternative A into alternative B, and I liked her rewording of it as well. In general, it strikes me that an LSAP is not necessarily the most convincing tool that we have available. I think forward guidance, as in paragraph 4 of alternative A, is a tool whose costs and benefits I understand better. I think President Plosser’s suggestion of cutting the interest rate on excess reserves also is something that we should study more—again, it could help us achieve our dual mandate. We’re not competing with huge benefits on the table here—the LSAP is not going to take us down to 5 percent unemployment—so I think we have to explore all the possibilities.

My third suggestion relates to paragraph 5 of alternative B. It says we’re going to do this regular review of the LSAP based on incoming information. I would like to suggest that, after “in light of incoming information,” we add the phrase “about the rate of progress toward its objective.” The idea is that, if we were in the lucky circumstances of seeing 1.3 million jobs created over the next six months—which I think is unlikely, I have to admit, given my own forecast—that might lead us not to do further accommodation. So I want to put the focus on the rate of progress, not the levels.

Finally, I really feel that this institution faces a credibility problem if we are not clear that we expect we are going in the right direction, but we expect our movement to be “limited,” “modest,” “small”—I don’t know what word you want to use. I have not heard anyone around

the table suggest that we're going to be making striking progress toward our dual mandate by adopting this program. I think we should be clear with the public about that, and the way we can do that is in our communication through the minutes. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. I support alternative B generally. I support the suggestions just made by President Kocherlakota to switch to the word "disappointingly" instead of "unacceptably," and to include the phrase "about the rate of progress" in paragraph 5. I also support the suggestions made by President Fisher to add "up to" in various places in the statement of alternative B.

I distributed a memo that outlined my preferred approach to alternative B, which I'll briefly recap here. My preferred approach would be a threefold modification to paragraph 2. The first sentence of the paragraph would be unchanged. Let me stress that I think the goal here is more satisfactory progress toward price stability and maximum sustainable employment, so I don't think there's very much doubt about what the goal is. The first change would be in the next sentence, where I would suggest announcing the pace of purchases, which is \$75 billion per month. Then I would include a sentence that has some forward guidance, namely, "The Committee judges that, based on the current economic outlook, this pace of purchases will continue through the second quarter of 2011." What I especially like about that is the phrase "based on the current economic outlook." So we would be saying that, yes, we think this pace of purchases will continue on for a while, but we're also aware that the error bands around our forecast are gigantic and lots of things can happen in the interim, not to mention the program could go badly, and we may want to reconsider.



If we did it this way, we would let the markets do the math and get away from the idea of putting a big number in the statement, which I do not like. The markets are certainly good at math—better than I am—and they will substitute their own numbers, and they will also substitute their own forecasts for how they think the economy is going to evolve over the coming eight or nine months and make an assessment themselves of what they think the Committee will do going forward. I think that’s the kind of dynamic we’d like to have, namely, the private sector assessing how they think the economy is going to evolve and, therefore, what they think the policy reaction will be. In the meantime, we’d be making statements about how we see the economy evolving and how we see policy evolving going forward. That’s the normal monetary policy dynamic that I think would be useful in this situation.

Finally, I would move the state-contingent sentence from the very end of paragraph 5 up to paragraph 3 immediately after the sentence I just discussed. That sentence says “the Committee will regularly review...” and so on. So right after providing the forward guidance, it would say the Committee will regularly review this decision. This emphasizes the fact that everything depends on the data, and it might change going forward. I see the tool statement in paragraph 5, “the Committee will employ its policy tools as necessary,” as reminding markets that we can and will use alternative tools if necessary, so I think it’s a bit out of place to put the sentence about the regular review in that paragraph. I thought that paragraph was intended to remind people that we’ve been very innovative during the whole crisis over the last three years, and we certainly remain determined to be innovative in the future should conditions deteriorate further. So I see the first sentence in paragraph 5 as not the state-contingent idea that I wanted to get across. I would prefer that state-contingent idea to be in paragraph 3. These edits are all minor, I would say, but that would be my preferred way to go ahead.

Let me comment on a few other issues. On the question of so-called “LSAP” versus “quantitative easing,” I do not like the “large-scale” part of “large-scale asset purchase.” I think that smacks of a desire to surprise markets, which is hardly ever optimal policy. Unless you think that we’re in some kind of dire situation, I would not recommend that. The policy is a systematic response to shocks and to the state of the economy, so I prefer simply “asset-purchase program.” I don’t think it would be possible to get off the “quantitative easing” language, nor is it really necessary to do so. We can probably shape that language and define it as we wish. I think that, as it stands now in markets, “quantitative easing” connotes an inflationary policy, frankly, and I think that works fine for our current purposes. The Committee, in my view, is defending its implicit inflation target because we are on the low side of it. I also see inflation expectations as the primary determinant of actual inflation. So, to the extent that we’re able to push inflation expectations higher, I would expect that to have an effect on actual inflation; as the staff has emphasized repeatedly in the Tealbook, inflation expectations are acting as an anchor balancing slack effects that are in that model.

I see the policy, more broadly speaking, as preventing us from falling into a deflationary-trap steady state like the one that Japan has been stuck in for some time. I have argued that near-zero rates alone allow a disinflationary drift in expectations. With near-zero rates for several years, which is what we’re looking at in all likelihood, and no other policy moves to supplement the zero interest rate policy, the Fisher relation—that’s Irving Fisher, not Richard Fisher [laughter]—dictates expectations of a mild deflation. As I see it, this is exactly what has happened in Japan, and, even though we’ve been talking about it for a long time around this table, I’ve seen very little to dissuade me from this view. I think we should take this theory more seriously than we already have. It’s a very general argument that spans many different models.

It requires only an inflation target, a Taylor rule, and a Fisher equation. You can put any other favorite features that you want in your model, but, once you do that, you'll still have a second steady state that looks exactly like what has happened in Japan. For the U.S. to move toward that type of steady state is a serious risk. As I argued yesterday, nominal contracting in the U.S. means that those contracts were set up based on an implicit inflation target of 2 percent. If we went to minus 1 percent inflation, there would have to be some transition to that kind of a steady state. That would further disrupt housing markets, in particular. Also, I think that if the U.S. went into that kind of a steady state, there would be global implications. You might also get Europe into that steady state—Japan is already there—and then you'd be in a very difficult policy situation for a long period of time.

Therefore, I think it's important to take preemptive action to avoid that outcome. So far, what we've done ahead of this meeting suggests that this policy seems to be working, but I would be cautious and withhold judgment on that—it's unclear at this point, and we don't know how well it will work going forward. If we are able to get past this risk, we will face new challenges. I'm very cognizant of those, and many voices around the table, including President Lacker, President Plosser, President Fisher, President Hoenig, President Kocherlakota, and others, have aptly articulated them.

Let me talk about just a couple more issues and I'll be done. On the issue of fed funds rate equivalence, I think I've come to the conclusion that this is probably not the right way to think about our QE policy. I think that those calculations are too linear and too local. They're estimates around a particular point which are then extrapolated out for very large purchases. I think nonlinearities are probably quite important in our policies. These very linear, very local estimates of the effects of asset purchases tend to indicate that buying the entire outstanding

stock of Treasuries would have small effects. I think that's indefensible and surely not the right analysis. So we need something better than what we've got on this dimension.

On rationalizing missing both sides of our mandate, I've argued previously and a little bit this morning that this is not a good argument by itself. The fact that unemployment is high and inflation is low is nothing more than the impulse response that you would expect from a very large shock to the economy. Furthermore, if we take our model forecast seriously, we're going to continue to have high unemployment and inflation below target—it takes a long time to return to steady state, especially when the recession is associated with a financial crisis. I think President Lacker had exactly the right take on this: It's all about the pace of returning to the steady state—President Kocherlakota, also raised this—it's not about the levels or the mere citing of the fact that unemployment is high and inflation is low.

On the risks to our policy, I agree with yesterday's statement by the Chairman. So I'm going to skip over any further comments on that.

Regarding the challenges going forward, I see three in addition to the many others that have been talked about here. I actually think our policy may be fairly successful on the inflation side—maybe too successful—and we may end up overshooting our implicit 2 percent inflation target. I think we have to think about how we might react to that situation in the coming quarters. Unemployment will probably remain quite high, and, in that case, there could be a national discussion about stagflation—with inflation moving up and unemployment not moving very much—so we have to be prepared to confront that argument. The U.K. has that situation, to some extent, and the language they use in response says that their forecast is predicting a return of inflation toward target. As it stands right now, I'm not sure we're in a good position to make that argument.

I think it's also possible that this pace of purchases will prove to be a little heavy-handed, based on Brian Sack's presentation earlier, and pushing the Desk to capacity in some sense. We may have to be prepared to back off a little bit from that pace if we get market functioning problems. I think we ran into some of that with the MBS purchases, especially late in that program, and especially with agency debt. I'd want to be careful that that kind of thing is not then interpreted as a backing off of monetary policy.

Finally, let me just say that it has become a lot more popular now to talk about mandate-consistency around the table. This was an issue that I thought had been settled long ago, but maybe it's an appropriate time to revisit it. It's making me a little bit nervous. I think we could unintentionally ignite a debate on price stability that may not be wise. I think this Committee has come to the conclusion, mostly in the 1990s, that something like 2 percent was a reasonable number, and we could call that price stability. But it's very reasonable to say that that isn't really price stability. Price stability must mean zero inflation, so I think it's a little bit tricky to reemphasize these mandate issues that have long been settled. We felt that providing price stability, as we think about it, is the best backdrop toward full employment, and I think we should probably stick with that and not stir up that debate again. But I'd like to hear others' views on that. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Yellen.

MS. YELLEN. Thank you, Mr. Chairman. I favor alternative B. You gave an eloquent, detailed, and very convincing defense of this alternative in your remarks yesterday, so I'll just reiterate and emphasize my agreement with a few of the points you made.

First, the outlook for employment and inflation are dismal. We will miss both objectives by a country mile for years to come. Of course it will take considerable time after such a large

shock to attain our objectives no matter what, but optimal policy calculations call for much more stimulus—as you explained in detail yesterday. The pace of progress is inadequate. Further, LSAPs are not a panacea, but they can make a meaningful difference. We’ve seen a significant improvement in financial conditions on longer-term rates, equity prices, and the dollar during the intermeeting period as markets have increasingly built in the expectation that we will act. The improvement in financial conditions we’ve already seen will help to support a stronger recovery and help to return inflation towards levels consistent with our dual mandate.

If one stares at the graphs on page 5 of the Tealbook showing the paths of GDP and the unemployment rate under alternative policies, the benefits do look minor. But putting numbers on them, as you did yesterday, suggests a meaningful improvement. You estimated that a \$600 billion program would create about 750,000 jobs by the end of 2012. A similar calculation suggests the program would raise output over the next two years by around \$125 billion. Expanding our balance sheet may entail some risks, but the benefits are nontrivial, and I agree with your assessment that the risks are manageable, especially if we proceed cautiously. I also agreed with your comments concerning the possible impact of this policy on the dollar. On balance, I believe that because it has a positive impact on U.S. growth, our actions are not on net harmful to our neighbors. A stronger U.S. recovery, I believe, is very much in their interests.

Contrasting alternatives A and B, I prefer B. I think it makes sense to commit at the outset to a dose of purchases that we can be quite confident we will want to undertake and to attach greater conditionality to purchases beyond that level, so we can see how economic conditions are evolving once the program gets under way. My expectation, based on a forecast similar to Tealbook, is that we should and will end up purchasing roughly \$1 trillion of longer-

term securities; but the \$600 billion initial commitment, which, I guess, is the equivalent of around a 75 basis point cut in the federal funds rate, is a sufficient step for today.

The wording in paragraph 5 leaves open the possibility of purchases beyond \$600 billion and suggests a bias towards ease, but it doesn't lean too heavily in that direction. It also leaves open the possibility that if the data surprises are sufficiently strong to the upside, we might not complete the intended \$600 billion of purchases. But I think the bar for us to stop short of \$600 billion should be quite high. I would not, therefore, want to add "up to" to qualify \$600 billion in paragraph 3.

I see both pros and cons to altering the "extended period" language along the lines of A4. On balance, my preference is to leave well enough alone. A4 slightly improves the clarity around our "extended period" commitment by setting out conditions that would be required for us to raise the funds rate target before mid-2012. But, because mid-2012 appears to be the modal market forecast for liftoff, the statement will not push out market expectations very much. And the wording of the conditions around that promise still leave plenty of scope to keep markets guessing how high exactly is "elevated," and what data would convince us that inflation expectations are no longer well anchored.

Of course, it's hard to be more specific because, as a number of you have emphasized, we haven't agreed about such matters among ourselves. I think our current language is working quite well, in the sense that incoming data surprises move market expectations about liftoff in ways that seem appropriate, and those reactions have been working to strengthen the transmission mechanism.

CHAIRMAN BERNANKE. Thank you. Governor Warsh.

MR. WARSH. Thank you, Mr. Chairman. I'll begin with my views on policy. I'll end with a discussion of my vote. In between, I'll discuss some of the broad themes you and others raised about why we're moving in this direction and try to provide a countervailing view. I'll talk about some of the additional risks to this approach that haven't been mentioned in any great detail, and I will ask for a modest change in the statement.

First, my views on policy. As I said when we met by videoconference, my views are increasingly out of step with the views of most people around this table. The path that you're leading us to, Mr. Chairman, is not my preferred path forward. I think we are removing much of the burden from those that could actually help reach these objectives, particular the growth and employment objectives, and we are putting that onus strangely on ourselves rather than letting it rest where it should lie. We are too accepting of dangerous policies from others that have been long in the making, and we should put the burden on them.

I can think, Mr. Chairman, of a tough weekend that the Europeans had, particularly your counterpart at the ECB, in the spring or summer, when we all knew that the European Central Bank, rightly or wrongly, was going to take action. But Jean-Claude Trichet did not take action until very late that Sunday night, until the fiscal authorities did their part. He thought that if on Friday night he were to say all of the things he'd be willing to do, he'd be taking the burden off the fiscal authorities. He chose to wait. I think we would be far better off waiting. If we proceed on this path, as I suspect we will, I would still encourage you to put the burden where it rightly belongs, which is on other policymakers here in Washington, and to do so in a way that is respectful of different lines of responsibility.

Like some around the table, I think the risk-reward trade-off in this exercise is poor. The benefits strike me as small and fleeting. The risks strike me as unknown, uncertain, and



potentially large. If this were some one-off game and we were in the final state, I suspect we could get away with it. There wouldn't be huge benefits. There wouldn't be any reputational consequences. There'd be no effect on others, and we could take all of their behavior as given. But it is not. This is a game that will be run many times over in the ensuing months and, I'm afraid, years, and if we run this game long enough, the risks that I and some others have talked about, I'm afraid, will materialize. Thus, if you do take us in this direction, the policy must be to see if we can't get in this game and out of this game before these risks materialize.

Let me talk broadly about a few themes about why some think this will be effective, and provide my own views. I won't talk in the language of the academy, but I will talk in the language of markets.

I've heard three themes. One is that we're going to get financial markets to provide a lot more benefit to the real economy, and we'll get a virtuous circle. Higher asset prices will end up driving more consumer wealth, more confidence. Business leaders and consumers will feel better, and that will find its way into the real economy. In my view, that's a risky proposition. I do not think of financial markets and the real economy as separate, as exogenous to one another. They are two ways of looking at the same underlying phenomena.

And my own view, Mr. Chairman, is that sometimes financial markets get ahead of the real economy. Sometimes the real economy gets ahead of financial markets. But when one gets too far away from the other, it is usually pretty ugly when they ultimately converge, and I am skeptical that we can persuade and convince asset prices to do the hard work that needs to be done on the real economy side for anything more, perhaps, than a fleeting period. I am skeptical that further lowering risk-free rates across the curve will last long enough for these confidence and wealth effects to find their way into the real economy.

My own take on the capital markets, Mr. Chairman, as you know, is that we've had these "risk on" and "risk off" days. Markets don't seem to me to be making hard decisions that they like this asset and not that, that they like this country and not that, that they like this industry and not that. Instead, they seem to be making judgments based on us. They seem to be full of confidence some days, and in full retreat on others. So I worry about putting too much burden on the financial markets to do the work of dragging up the real economy. I think that is a risky proposition.

Second, there's an argument about increasing inflation and the benefits that could bring. In my view, this attacks a risk that is not predominant with a tool that is not fine-tuned in an environment that is not conducive. I'll call this argument the nominal revenue argument. This argument says that, with higher inflation, businesses are going to have higher revenues. They're going to feel better because their top line is moving. They're then going to be more inclined to invest more. They're going to grow capital expenditures. This will happen everywhere around the economy, and we'll be in a better place. I don't believe it. I don't believe that will lead to lower unemployment. I don't think those CEOs will be fooled that their costs haven't increased as much as their revenue. I think they'll be very focused on their profit margins. And, as some have said, I don't think that we really do have much of a deflation problem. If the judgment of the majority of this group is that we do, it strikes me that there are better tools, more effective tools, for raising inflation and inflation expectations than buying these longer-term assets. I can imagine that a speech or two by the Chairman of the Federal Reserve—with your credibility, your insight, and your persuasive abilities—would do much of the hard work that this balance sheet expansion is doing.

The third argument that I've heard is about foreign exchange, and I think even those who do believe that there are real benefits in terms of net exports from weakening the foreign exchange value of the dollar, are hesitant and rightly so to say those words in public venues. They don't consider that to be politically correct. I think there's a good reason for that. I think it's a dangerous policy. I think it is risky pool playing in the foreign exchange markets, asking them to do so much of our work when the world's recovery is resting on this. I think this is a particularly risky strategy when you have the world's reserve currency. If we were monetary policymakers in the U.K. or other places, and it turned out that we got a little ahead of ourselves, so that gilts weren't valued as much as we had thought they would be, well, the gilt market would be a little bit confused for a while, but it wouldn't change fundamentally the value underpinning every asset everywhere in the world. So I worry about playing in these markets. I don't think that that's one that's likely to yield benefits. While there could be some improvement in net exports—and I don't want to dismiss that—I think these other risks are much more significant, and I think about investment that goes in the opposite direction of these net exports. If the world comes to not believing in the underlying value of our currency, then at some point the world will say, "That is not where I want to be investing my excess reserves and excess cash."

Those are brief responses to, I think, well-intended arguments in terms of channels by which this could work. Let me make a few other points about tools and risks. As I mentioned, I think we're underestimating the risks of interfering in size and in force in the longer-term Treasury market, and I think that Brian and his colleagues have a very difficult job to try to be price-takers and not price-makers in these markets. As I mentioned, this is not a one-off game. We've already seen examples of ad hoc interventions by policymakers around the world that can

interrupt capital flows and cause some retrenchment from globally integrated monetary and trade architectures, and I think this is very risky. I think the adoption of nonstandard tools introduces new uncertainties about the conduct of policy, which I haven't heard reasonably and finely understood by this group. In addition, by using such expansionary policies now, we are risking leaving ourselves ill-prepared for an exogenous global shock which I cannot anticipate. It might have nothing to do with the policies that we're putting in place, but, boy, oh, boy, I don't know how we'd respond if a shock happened anywhere else around the world.

Let me raise two more concerns before going to the statement. One is the stagecraft. I would say that all of us want the policy that comes out of the Fed to be successful. Part of that policy success depends on what a former member of this group called "theater" and what I'd call "stagecraft." I don't think the stagecraft over the last six weeks has been optimal, and I look to Governor Yellen's subcommittee to see if we can't improve that, because I wouldn't dismiss the importance of the formation of these views and communication of these views to the ultimate success of our policies.

Second, I'd like to build on a point that Narayana and a couple of others made about exit. The exit plan is not fully understood by me. It's not obvious to me when we will stop expanding the balance sheet. It's not obvious to me what will satisfy our conditions of saying, "Yes, this worked," or, "No, that didn't work." Instead I fear that, if the unemployment rate remains, in the language of the moment, "unacceptably high," it's not obvious to me that this Committee has explained to markets why they would no longer be willing to go down this path of QE2 and beyond.

Let me turn to the statement and see whether I can't make a modest proposal to try to bridge some of these risks in what is, in my view, a very suboptimal set of outcomes. I won't

focus on a lot of the suggestions that have been put forward, though I'm sympathetic to them.

Very simply, in paragraph 3, I would suggest that you would have a better chance of succeeding and that we have a better chance of communicating if we were simply to reverse the order of the operative sentence on asset purchases. I don't think this makes a ton of difference, but it certainly would make me more comfortable. So I would rewrite the final sentence of paragraph 3 as follows: "In addition, the Committee intends to purchase additional long-term Treasury securities at an average pace of about \$75 billion, which is intended to constitute a total increase of \$600 billion by the end of the second quarter of 2011."

Now, I don't like anything about alternative B. I am not in love with this sentence in any formation, but I think that change at least captures what I take away as maybe my own reading of alternative B, which is that we're going to move at \$75 billion a month, and adheres to your suggestion yesterday, Mr. Chairman, which I took very seriously, that we are going to try to monitor these risks and we are going to be very attentive to developments. By putting that first, it strikes me that you're giving yourself at least the option that you will be prepared to take action if these risks materialize. The \$600 billion then is the summation of that expectation, but I do think it would go some way toward suggesting that this thing is not on total autopilot, given the risks that I see.

I won't comment in any great detail on what others have put forward on the statement. I do consider the use of the word "unacceptably" in paragraph 2 to be really odd and not something that we could well explain. So I don't think that that's useful. I'm also sympathetic to Richard's suggestions on inflation, mostly because I don't think we want to suggest we have a ton of work to do on the inflation front.

So having given you my views, having told you I think probably more than you or anyone wants to know about my sense of the risks, and having made a modest suggestion to alternative B, let me try to talk a little bit about my vote. How in light of all this do I justify not dissenting? If I were in your chair, I would not be leading the Committee in this direction, and frankly, if I were in the chair of most people around this room, I would dissent. My respect for you during this last four and a half years is incredibly high. I am awed by the burdens that you are confronting, and I wouldn't want to undermine at this important moment the chance that this program could be successful. I know a lot of people around this table feel total conviction on the opposite side of where I do.

I think this is called the Bernanke Fed for a reason. I've got a lot of confidence that if the risks that I talk about materialize, you will not hesitate and you will change your view, you will change this experiment. That's not just a hypothetical—when we did the LSAPs the first time, we did a \$300 billion Treasury purchase, which I did not think was a good idea, and you stopped it because it was not working, and we pivoted to these mortgage-backed securities. There, again, I had my own misgivings, but I think that was more fertile ground. As I had mentioned then and frequently since, that market was broken long before we ever found it. So, I think you did some good there in the crisis, and I've seen your willingness to change your view, and I will count on that if these risks that I talk about, however unlikely, do end up materializing.

Let me talk about what could change my support for alternative B, which, as I've indicated, I offer with the greatest reluctance. If inflation were to move up and were to be broadly consistent with the implicit inflation target in different people's minds around this room, even if unemployment were unacceptably high, I think that would be time to stop this program. If inflation expectations were to move out of the range that they have been in for a long time, that

would be a reason to end this program, even if unemployment were exceptionally high and GDP were well below what we think the economy is ultimately capable of. And if these other risks that I talked about did materialize in the foreign exchange markets, I'm confident that you would be unafraid to change your views on that.

What about the wording in alternative B? The version of alternative B that I can, with the greatest reluctance, not dissent from suggests that the LSAP program is, in fact, limited, that the judgments that are being made on this incremental \$75 billion are circumscribed, and that the program is subject to serious regular review. I must admit that I don't like the phrase "continuous review" because I don't like the idea that it is every day that markets might worry whether our views change. So "regular review" or "periodic review," which might coincide with FOMC meetings, but obviously could coincide with market events, strikes me as a little better. Ultimately, I think that's subject to rigorous review, and if this program were to end at \$300 billion instead of \$600 billion, as the first attempt did, then I suspect we probably haven't done too much harm.

So if my reading of this and my reading of your willingness, Mr. Chairman, to change course is right, and if these judgments were to materialize and the reaction function of this Committee were to change, then I can support it. I will have no choice but to dissent, I think, at future meetings if these risks materialize and if these benefits don't end up coming. This is maybe a little bit more than you wanted to know on my personal struggle on this and also on the risks that I see. Thank you.

CHAIRMAN BERNANKE. Thank you, and it is "regularly review" in the current statement. Governor Duke.

MS. DUKE. Thank you, Mr. Chairman, and thank you for taking the time yesterday to lay out your reasoning so completely. In my time here, I've learned to respect and be guided by your reasoning and your instincts, and I've also learned to trust your integrity. So I was pleased to hear your commitment to the notion that, if at any time the costs of these actions are unacceptably higher than expected, we will stop. On that basis alone, I would probably be willing to support alternative B, but I came in here with a few other reasons to support this action and a few concerns.

I don't disagree with the need for action. I'm just troubled by the limited projected results from this action. Given the discussion of pace versus level, when I looked at the graphs in the inset box, it seemed to me that the difference between alternatives was less than one quarter in terms of time. I may be a little wrong on that because the graphs were small and I didn't actually have a ruler, but that's what it looked like. [Laughter] Therefore, perhaps the strongest reason that I can find to proceed with LSAPs is the healing effect of low rates. Understanding that banks and their customers need to heal before they reengage, it may be enough of a reason. And while I think the benefits are small, I've come to view the cost as equally small. Although still untested on a large scale, our exit tools are at the ready, and inflation threats seem far away. I'm anxious about the potential for asset bubbles, but I do believe we have a tight enough clamp on the financial system to limit those risks at the moment.

However, given that I expect the benefits to be small, I still question what's next. It doesn't feel really right to choose a strategy because I think it's unlikely to do much harm if I also expect it to be unlikely to accomplish the mission. While we're framing this action as state-dependent, I don't see much actual room to maneuver in reaction to different economic conditions. With total monthly purchases as a constraint, our actual ability to react to incoming



data going forward seems limited to extending or not extending the time frame and the total amount. I wholeheartedly endorse President Kocherlakota's suggestion that we need to understand how we would define good and bad outcomes and what we might do in response to them. I'm not sure how much scope we actually have, but it sounds like many around the table have different expectations about what comes next.

Let me end with two reservations, just in case anyone missed them when I wove them into my comments yesterday. We've talked about the difference between LSAPs and quantitative easing, but the fact is we will be injecting more reserves into the system. The last time we had large purchases, reserves didn't grow very much. They had already grown as banks snapped up much needed liquidity, so, for the most part, our purchases represented a substitution of assets purchased for liquidity facilities' repayment. For their size, the LSAPs didn't really expand our balance sheet or the reserves very much. But the banking system doesn't have the same thirst for additional liquidity at this time, so we need to monitor the response to additional reserves. My second reservation comes from my concern about the mortgage market. I can't tell from the staff projections how much of the benefit of this action is expected to come from improvements in house prices or the mortgage market, but I still believe that channel is too broken to work.

In summary, I support alternative B with the understanding that we will closely monitor the costs and benefits as we go along and hope that we will also continue to look for even stronger actions or uses of our tools to improve the outlook for unemployment.

Turning to the statement, I do prefer "disappointingly slow" to "unacceptably slow." And I don't like the "up to" language—I think that conditions it too much. As to paragraph A4, I think markets already expect that timing, so I don't see that it adds anything in terms of

expectations, and I thought President Fisher’s suggestion, “while maintaining a firm commitment to keep inflation within levels consistent” and so on might signal the same thing and in a more efficient way. Finally, I do sort of prefer the discussion of rate of progress rather than levels.

Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. This is a difficult decision for me, and I think it was a difficult decision for most of you. The only people I worry about are the people who think that the decision was easy, whether to do nothing or to do precisely this, because I do think that, as many people have pointed out, there are nontrivial costs and nontrivial benefits associated with, for example, each course of action that the Tealbook tried to play out for us. This shouldn’t be a surprise. When one is faced with difficult problems, policy responses are invariably not going to be perfect. You’re going to have shortcomings with each, and you’re going to have advantages with each.

From my point of view, as you could tell from yesterday, I’m most concerned with the present and, perhaps, future absence of sufficient aggregate demand to move us out of this rather sluggish growth pattern which, I fear, will be self-reinforcing. And I certainly don’t believe that \$600 billion of additional asset purchases over time will turn that situation around.

I’m nonetheless in favor of the action proposed in alternative B for a couple of reasons. First is the potential for deflation. I think this really is worth emphasizing—Jim Bullard did it again today, John Moore did, as well, and others have alluded to it. Even if the potential is not large in probability terms, it’s one that would have such costs that the extra bit of insurance against it seems to me important. Second, the real economy effects hypothesized by the staff with the implementation of this plan would have some influence on changing the balance of

people's portfolios and thus where money is being extended in credit markets, and it would have some effects at the margin, which, after all, is where economic policy is generally made.

There are certainly risks. The Chairman detailed a number of them yesterday, and several of you have mentioned them today. To me, the risk of excessive leverage developing in some markets is among the most important of those, and I think it is incumbent on us in our supervisory and new financial stability roles to monitor the growth not so much of asset prices as of the leverage associated with that.

Having said that there are risks, I'd also say that some of the things that I've heard described as risks don't worry me as much. First, there's concern that if we do something today, then markets will expect that we're going to do more later with QE3 and QE4, as Nouriel Roubini is now discussing publicly. I think we can't have it both ways—we either worry about market expectations or we try to lead market expectations. In taking this action today and through the words of the Chairman and I hope the consonant words of others over time, I think we can shape market reactions as to what may happen in the future.

Second, there's concern about our independence. I think that, if we fail to take a monetary policy action that we think is the right action for fear that it will lead to encroachments upon the monetary policy independence of this Committee, then the Committee has already lost its monetary policy independence, because it is now being moved by expectations of how others will assess it. I distinguish this from—just to pick something out of the air—the Fed doing consumer protection rules. As many of the people around the table know, I thought that was better done in another agency precisely because of the partisan nature of much of those responsibilities and because they are not directly relevant to monetary policymaking. I feared it might have effects upon our monetary policymaking function. Indeed, I think it already has.

But, if we believe in the independence of this Committee to set monetary policy as we think best, removed from the politics of the moment, then I think we have to proceed on that basis.

Third, there's concern about dollar depreciation. I really don't understand the concern here, to be perfectly honest. I've been doing international economics for a long time, and every time the Fed moved, those of us who paid attention to trade and investment flows would always think about the effect on the dollar and, thus, on both trade and investment flows, whether we're easing by reducing the federal funds rate by 50 basis points or by reinitiating an asset-purchase program as we're considering doing today. So, in terms of the perception that we're going to have such an effect, this really is not news—it's the way things have always been. The attention to it may be heightened at this juncture because there has been some question about the dollar's position over time. I am one who shares some concerns about the dollar's position and the potential for instability in foreign exchange markets, but I must say that that situation has developed over the last decade as large current account deficits and large budget deficits were run even in a period of economic growth. I don't think that the actions of this Committee in initiating an additional \$600 billion in purchases are going to tip us towards foreign exchange instability in the context of those broader problems which are going to have to be confronted by the country over time, including having a more sustainable external balance.

Fourth is the argument that it would be better if other parts of the U.S. government took their own policy actions. I agree it would be far better if aggregate demand were being supported by the political branches of government. But it's not, and I don't think Section 2(a) of the Federal Reserve Act reads this way: "The Board of Governors and the Federal Open Market Committee shall take such actions once they have told the rest of the government what's best for them to do." [Laughter] We've got the mandate to take such actions as we can, seeing the world

as we see it and taking it as we find it, just as sometimes people wish that the private sector would be doing things differently, but it isn't, and, therefore, monetary policy action is called for. So I think that there is an obligation on our part to do what we can, taking the world as we find it. Now, I do not disagree with Kevin that some prodding of the other branches of government to do their part would be valuable, but that doesn't seem to me to undercut our obligation to take the actions that we can in an effort to achieve the dual mandate.

I am in support of alternative B. I think that, as President Evans suggests, there would be an argument for doing more precisely to get the benefits up. I can see the arguments of those who think that the risks may be disproportionate to the benefits, so they don't want to do anything. I come down on the side of saying that the risks are exceeded by the potential benefits, particularly in these circumstances where we do need to be mindful of the potential for deflationary traps—we're already in a liquidity trap. We have to think in a prophylactic fashion as well as an incremental fashion. I'm sorry, this is a bit of a digression—I do vividly recall in the 1990s pleading with Japanese authorities not to raise their value added tax and to take more aggressive action to stop their economy from sliding into a liquidity trap and being met with a whole line of arguments that “things are getting better, we just have to be a little bit patient.” There was an inability to pull out of conventional policymaking thinking and to see that the situation was actually quite different.

Is this policy move we're contemplating destined to be a great boon and prod to the economy? No. However, I think the risks, which are real, are well worth assuming both as a means of stopping a slide towards deflation if one were to start to develop and as a means to provide an incremental prod towards activity in the real economy.

With respect to all the suggestions on the language in the statement, I'll just note the ones that particularly appeal to me or that somewhat troubled me. I like both of Narayana's suggestions, and I think a lot of people do. I don't like the "up to," even though I understand why Richard proposed it, and I like Kevin's formulation better. The reason I don't like "up to" is that it makes it seem that there's not a presumption that that's what we're going to do, and I think we should have a pretty strong presumption that it's going to be \$600 billion during this period, not more and not less. But, as Kevin suggested, if serious problems were occasioned by the policy, or as Narayana suggested, if unexpectedly we got this huge burst of activity or, I would add, if unexpectedly the slide towards deflation seemed to be taking place, then, of course, we should change policy. But I would hope there would be a reasonably strong presumption for action, because I don't think we want to get into fine-tuning even though we do want to react to the world as we see it. Regarding paragraph 4, I don't feel strongly about the actual language in A versus B, but I think, as Janet said, we might be well advised at this particular FOMC meeting to minimize the number of changes except those we think are really necessary in order to reflect our assessment of the economy and the action we're taking today. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Raskin.

MS. RASKIN. Thank you, Mr. Chairman. Given that the economic recovery is too weak to deliver acceptable progress toward our dual objectives, additional monetary accommodation is appropriate. Although it is appropriate, I believe its effect should not be overstated, and its risks need to be monitored. The effects need to be viewed as not particularly overwhelming at this point. FRB/US simulations suggest that the implications for real GDP and unemployment would be small. Moreover, there currently is not a particularly robust short-term accommodative fiscal policy. In addition, I wonder about the strength of the linkage between longer-term interest rates

on Treasuries and the terms and availability of credit to small and medium-sized businesses. These businesses, as we know, are an important source of job creation, and I'm uncertain about the extent to which lowering longer-term interest rates will open the spigot further to new lending. This uncertainty is exacerbated by a supervisory policy that is uncoordinated, either rightly or wrongly, with monetary policy. Similarly, I view the so-called wealth effect as having minimal further effect. Equity prices have risen and may rise a bit more, but perhaps not enough to induce households to embark on much of a sustained spending spree.

Despite these mitigants, the staff estimates that \$600 billion of purchases leads to a reduction in the unemployment rate of approximately 0.3 percentage point. This is small, but not inconsequential. Alternatively understood, it's small but, at this time, is not overtaken by risks that make doing nothing the better course of action. Incidentally, I cast substantial doubt on the proposition heard around the table this morning that doing nothing here will somehow push and direct fiscal policy in the right direction in a timely and predictable way. I view fiscal policy as highly uncertain, and, frankly, I believe it disingenuous at best to think that we can pass the buck, so to speak, back to the Congress.

Accordingly, I would support the policy action and statement described in alternative B. As between A and B, it strikes me that it is desirable to maintain flexibility in the timing and extent of any purchases above and beyond the \$600 billion. An even larger purchase program could be necessary, and alternative B signals that possibility. A more incremental approach gives the Committee the chance to understand with precision the effect of increases in the balance sheet and the chance to incorporate incoming data—in a “regular” if not a “continuous” way—that could permit a more precise determination of the amount of stimulus or withdrawal of stimulus that the economy will need. In addition, this more incremental approach may help allay

any lingering concerns among some members about the Committee's ability to execute a smooth exit from policy accommodation.

Moreover, whether this is desirable or not, public statements by members of this Committee, this so-called stagecraft, have provided financial markets with the strong expectation that the Committee will announce an expansion in the balance sheet at this meeting. Should we choose to determine that the threshold for undertaking further accommodation has not been met, as in alternative C or D, we would significantly surprise market participants and, as a result, longer-term interest rates would rise more than forecast, which, in my view, would stall the recovery at this point. Since the time of the Chairman's Jackson Hole speech, we've seen that the prospect of purchases can succeed in lowering interest rates. Given the magnitude of excess capacity, there's little risk of inflation today, and the risk of future inflation is minimal, so long-term interest rates should not rise dangerously in response to the interventions because this Committee has a credible record of reasonably anchoring inflationary expectations. That record is what makes the course of accommodation described in alternative B, to my mind, credible.

Thank you.

CHAIRMAN BERNANKE. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Mr. Chairman. I support alternative B. The issue of whether to do another round of LSAPs is really—as both proponents and opponents have made clear—about costs versus benefits. I think we mostly agree that the benefits of the LSAPs decline with size, so each additional dollar of LSAP has less benefit in terms of reducing longer-term rates and easing financial conditions, while the costs increase with size, so, as we do more, the costs of this program increase in terms of exit difficulties or balance sheet risk. This means that at some point these diminishing benefit and rising cost lines must intersect, and what



we're really arguing about is where that point is. In addition to the intersection of those lines, I think we also need to focus on what we can do to shift that cost line—it's not as if it's immutable. The better we communicate to markets about what we're doing and why, the more we can reduce the cost of the LSAP program and push out the point where those two lines intersect.

On the issue of communications, I think we can reduce the cost of LSAPs by being clear on three issues. First, I think we can explain very clearly why this does not represent monetization of the debt. The two are very, very different. Unlike monetization of the debt, the increase in the size of our balance sheet will be temporary, not permanent—as soon as we see the economy coming back to the point that we think the dual mandate is going to be satisfied, the program is going to end. Monetization of the debt, in contrast, involves increasing the balance sheet and creating inflation that you live with forever.

Second, I think we have to continue to work on explaining to market participants why we can exit smoothly from this period of monetary policy accommodation when the time comes. There are still people, very smart people, who think this is ultimately going to lead to an inflation problem. My own view is that the ability to pay interest on excess reserves gives us the ability to limit credit creation, so we will not have a longer-term inflation problem.

Third, I think it would be useful if we leaned a bit against the idea of a currency war. I find, as Governor Tarullo does, a lot of this disheartening, because I view the LSAP program as having effects on the currency markets that are very similar to what happens when we reduce short-term interest rates—the program changes interest rate differentials, and that has effects on currencies. I don't think that's meaningfully different in kind from traditional monetary policy easing measures.

In terms of the benefits associated with further LSAPs, I think we can increase them by explaining very clearly why we're doing this—we're doing this to ease financial conditions in order to support economic activity consistent with our dual mandate obligations. The better that market participants and the general public understand the rationale for our actions, the more our actions will be confidence-inspiring, which will increase the magnitude of any benefits.

Now, in terms of considering the benefits and costs of an additional LSAP program today as compared with a few months ago, I'd say the evidence in favor of the benefits has become a lot more compelling, because we've essentially run a test over the last six weeks as the market has gone from pricing in a very low probability of LSAPs to pricing in a much higher probability of LSAPs. What has happened over that period of time? Financial conditions have become much more accommodative, bond yields are down, equity prices are up, and the dollar has been slightly weakened. Also, inflation expectations have risen, which was actually quite helpful, because it reversed the earlier decline we saw during the summer when deflation risks were becoming a more prevalent fear in the market.

The Tealbook underscores this by pointing out that the unconstrained federal funds rate now, given the expectation of the LSAP program, is actually a little bit higher than it was in the prior LSAP. So the Tealbook is basically saying this is a substitute for further cuts in short-term interest rates, which we can't do because of the zero lower bound.

In terms of the issue of continuous adjustment versus “shock and awe,” I favor providing the most clarity we can to market participants while, at the same time, retaining some discretion to increase or reduce the program size as the economic outlook changes going forward. I view the \$600 billion figure in alternative B to be the amount that we are highly likely to want to do, so that the threshold for rolling it back is significantly higher than the one for doing more. I

think it's preferable to communicate this bigger figure to the market; if we were not to do so, we would create, I think, unnecessary uncertainty about our future actions. Since the LSAP program is mostly about stock effects rather than flow effects, introducing more conditionality than necessary would just undercut the power of this action to ease financial market conditions, which is what we're seeking to encourage. Doing it this way also gives us the benefit of allowing us to take a little break for several meetings to see how things are evolving, so we actually have some time to judge how the program is working and whether the costs and benefits are still in the direction that we currently anticipate.

I have two final points. First, I'd like to keep the door open to changing the type of securities purchases, should market conditions change significantly. If, for example, agency MBS spreads were to widen significantly, then I think we should keep an open mind about the wisdom of shifting a portion of future purchases from Treasuries into agency MBS. No one has mentioned that, and I'm not saying that I think it's likely that we're going to want to do it—I just wouldn't want to rule it out categorically.

Second, I think we need to be very clear about our expectations of what this LSAP program is going to do. This is not a panacea, and I think we need to communicate that clearly to market participants. I'd really expect today's announcement to have very small effects on markets. Brian and I have a little bet on whether the market is going to react slightly positively or slightly negatively to this announcement. But the emphasis is on the word "slightly." It's already priced in to a very large degree, so this is not going to be a big surprise, and we shouldn't judge the success of the program by what the markets do today—we should judge the success of the program by what the markets have done over the last six weeks or so.

In terms of language, I think there's a pretty strong consensus for substituting "disappointingly" or "too" for "unacceptably" in alternative B. I'm not a fan of moving A4 into B4, just because I think it wouldn't do very much. I think the markets already have an expectation of mid-2012, and I think it just creates one more moving part that makes it a little bit more difficult to explain and interpret. So, at this meeting, I'd favor doing one major change rather than two. I don't like "up to." I think we're highly likely to do \$600 billion, and putting in "up to" qualifies that more than I feel is appropriate. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. I'd like to extend my sincere thanks to the members of the Open Market Committee. Obviously, we don't agree on all the aspects we've been discussing—although I think that, to some extent, the disagreement is less fundamental and more a sense of weights that are placed on different benefits and costs or risks. In any case, the views expressed around the table are evidently very sincerely held, very well expressed, and very useful. We began this meeting by talking about the benefits of collegial interaction, which, as I said, are enormous. I also can say, quite frankly, that my own views have been influenced by the very careful and thoughtful statements that we have heard yesterday and today. So I very much appreciate your thoughtful contributions, and I hope everybody understands that I do find this debate very constructive.

Let me try to frame this at three different levels to help us think about the nature of the action we're taking. In some sense, the most basic level is the one I focused on yesterday, which essentially takes off from the staff forecast and then tries to assess the quantitative impact of these actions, which operate through various channels. I said that my guess would be that the actions would be somewhat stronger than the staff predicted. Monetary policy can be surprisingly powerful—I think there's a tendency to underestimate that. In any case, at that level

the case seems pretty clear, because we are missing the two objectives under our mandate in the same direction, and not just now but for what we expect is a long period of time. So, at that first level, the analysis says that we should be doing what we can to move in the direction of our mandate.

A second level, maybe one step up, says basically, “Well, there are likely to be relatively small benefits coming from these actions and a whole bunch of undefined risks.” A number of people around the table took that approach, particularly those who are most concerned about it. That has clearly been the line that a lot of the external critics have taken: “The benefits are small, and we don’t know what’s going to happen, and my personal view is that risk X is really the most serious one.” I think it’s important that we look at those risks, as we have, including discussing them at some length. Of course, that way of framing the problem makes it a much more uncertain decision.

I’d like to ask you to think about this at yet one higher level—and we all alluded to this—which is that there’s an implication that taking no action is a relatively safe thing to do. There is no safe thing to do—any action we take or don’t take is going to expose us to the judgment of history if we make the wrong decision. In particular, taking no action has risks. It may be true that deflation isn’t one of those risks, although that could happen down the road—currently, I think, the odds of that are relatively small. But another risk with greater odds of materializing is that the recovery could falter, and we could begin to see unemployment rising, and we could get into a more serious downward spiral. Therefore, not taking action is a risky step, just as taking action is a risky step. We’re caught between action and inaction—each has implications, and we need to make an appropriate decision.

I'd like to frame our decision today as a very conservative, middle-road approach, namely, we recognize that doing nothing carries serious risks of further disinflation and of a failure of the recovery to meet escape velocity, and, therefore, we're going to take some actions to try to move us closer to our mandate and to take out some insurance against those bad downside risks. Furthermore, in doing so, we're not going to do "shock and awe"—we're not going to do something extraordinarily large and dramatic. Instead, we're going to undertake an asset-purchase program that will play out over a period of eight months, with the purchases equaling \$75 billion a month. This is a substantial period of time—indeed, in some sense, the program has already been in place for two months, since we've already seen a lot of the effect on financial markets. Having such a substantial period of time means that we can be very vigilant about monitoring whether the program is having the effects that we hope it will have and whether other considerations are arising. I do appreciate Governor Warsh's comments, and I want to reassure him, and others, that I take very seriously the need to review regularly not only the evolution of the economy, but also the emergence of risks. So, in undertaking this program, we will review, we will be conditional, we will continue to monitor the risks that do exist. We will do all of this over a substantial period of time, and, in particular, we will be very careful about inflation. I want to reiterate that, again, there is no hidden agenda here to drive inflation to a high level. That will be a very important consideration as we look forward.

To summarize, I think that this is the right step. In the broad context, I think it is a reasonably cautious step. It hedges us against risks in both directions, and it gives us a substantial amount of time when we can be relatively more passive and observe developments. Although I don't anticipate, for example, fine-tuning or small jiggering of the amounts from meeting to meeting, I do think we should be prepared to make significant changes if either the

benefits or the costs prove different from what we anticipate. Again, recognizing all of the concerns that people have, as well as the issues about impact and the like, I do think this is a conservative action, which, perhaps, seems a bit ironic, given the conversation. It is one that attempts to take an appropriate step in the right direction, but in a careful and measured way, and it is one that will be reviewed as we go through the next eight months. My recommendation, therefore, is to go ahead with this program.

There were a lot of very good statement suggestions, and, although it always makes me nervous to edit these things on the fly in the meeting, I will propose adopting some of them, and I'd like to just go through and see how they work. The first thing I would suggest, and I will check with all of you on each of these, is in paragraph 2. I don't think this really brought President Lacker along, but are you negative, President Lacker on "over the longer run?" I thought the benefit of adding "over the longer run," consistent with what President Bullard said, was that it emphasizes the fact that just because we are not at our targets today doesn't mean that we are not doing optimal policy.

MR. LACKER. What does it mean arithmetically? If you had to write it down arithmetically, what would "over the longer run" mean about the unemployment rate?

CHAIRMAN BERNANKE. Well, we will be calculating that over time, but I think most of us would put high odds that our longer-run natural rate of unemployment is below 9.6.

MR. LACKER. You mean the natural rate.

CHAIRMAN BERNANKE. The natural rate.

MR. LACKER. Well, that's not uncontroversial.

CHAIRMAN BERNANKE. 9.6?

MR. LACKER. No. I'm not saying we're at the natural rate, but, I mean—

CHAIRMAN BERNANKE. Okay. So this doesn't help you at all. Does it help you, President Bullard?

MR. BULLARD. What are we proposing?

CHAIRMAN BERNANKE. I'm proposing to reinstate the phrase "over the longer run" in the fourth line of paragraph 2, in order to say that these two things are inconsistent over the longer run with the dual mandate. Is that good?

MR. BULLARD. I support that.

CHAIRMAN BERNANKE. Others? Do others have comments? [No response] All right, I see a few nods, and President Lacker's objection is noted. So we'll add "over the longer run."

The second one that got some support was from President Kocherlakota and it referred to the phrase "unacceptably slow." I would propose getting rid of the phrase "it judges that," because we wouldn't judge disappointment, so that the last phrase would be "progress towards its objectives has been disappointingly slow." All right? [No response] Okay.

There are a couple of other suggestions. One was motivated by President Fisher's comment—I'm talking now about his comment about inflation and price stability. There's a bit of anxiety, I think, about phrases that involve intentional increases in inflation, admittedly. So here's a proposal: In the two places where we have the phrase "to return inflation, over time, to levels consistent with its mandate," how about changing it to "to help ensure that inflation, over time, is at levels consistent with its mandate?" The revision doesn't have the sense of having to push it up, and it also finesses the differences among us about what the inflation target is.

MR. FISHER. I think that's better than what we have. And "to help ensure" is the operative phrase.



CHAIRMAN BERNANKE. All right. So that's in two places: at the end of the first sentence in paragraph 5 and in the middle of the first sentence in paragraph 3.

MR. FISHER. That would be an improvement.

CHAIRMAN BERNANKE. Is that an improvement for you? Okay. If I'm going too fast, you let me know.

MR. WARSH. Or "unacceptably slow." [Laughter]

CHAIRMAN BERNANKE. Lunch has been ready for an hour, I would like to point out, and we started at the second round today. There was also a small suggestion for the very last sentence—again, from President Kocherlakota. In the clause that starts "in light of incoming information," we could insert, "concerning progress towards its objectives." Is that what you suggested?

MR. KOCHERLAKOTA. No, I suggested "about the rate of progress towards its objectives."

CHAIRMAN BERNANKE. Okay. How about "concerning the rate of progress towards?"

MR. KOCHERLAKOTA. That's fine.

MR. WARSH. You had "including," not "concerning" in your version, Mr. Chairman, because that's not the only piece—

CHAIRMAN BERNANKE. Well, now it's getting confusing.

MR. FISHER. Could you read it, Mr. Chairman?

CHAIRMAN BERNANKE. Yes. The Committee will review the pace of its purchases and the overall size of its program "in light of incoming information concerning the rate of progress towards its objectives."

MR. KOCHERLAKOTA. Okay. Sounds good.

MR. WARSH. Are there things we're missing that are not included in that new phrase?

CHAIRMAN BERNANKE. Would you like to comment?

VICE CHAIRMAN DUDLEY. You could say "such as."

MR. WARSH. I'm fine with Narayana's suggestion—I think it's great. I just wouldn't want to limit the range of things the public understands to be part of our reaction function. We should have our eyes wide open, and, if Narayana thinks it's prudent, as do you, to reference one of those, that's fine, but it shouldn't be to the exclusion of a broader set of issues.

VICE CHAIRMAN DUDLEY. You could qualify it with the words "such as."

MR. TARULLO. Doesn't that undermine what you're doing?

MR. KOCHERLAKOTA. What else do we care about?

CHAIRMAN BERNANKE. Well, we care about the level of risk.

MR. LACKER. Well, "objectives" is pretty broad, isn't it?

MR. WARSH. We've already said twice in the statement that the objectives are inflation and economic growth.

CHAIRMAN BERNANKE. Okay. I'm now concerned that we're leaving out an important set of criteria, namely, emerging risks, side effects, and so on. So I guess I would propose to leave it as it is, unless you have an alternative.

MR. KOCHERLAKOTA. Let me suggest another alternative, which would be to change the word "concerning" to "including."

CHAIRMAN BERNANKE. "Including" what?

MR. KOCHERLAKOTA. “The rate of progress towards the objective.” You had suggested the phrase “concerning the rate of progress towards objectives,” and I’m suggesting changing the word “concerning” to “including.”

MR. LACKER. We care about risks, because it’s a risk to achieving our objective. It should be tautological here.

CHAIRMAN BERNANKE. But we could care about things that don’t directly bear on inflation and economic growth.

MR. LACKER. Financial stability? Well, that’s one of our objectives now, right?

MR. TARULLO. I think the issue may be, Jeff, that while we think about financial stability pretty regularly as one of our responsibilities, I’m not sure that everybody externally includes financial stability as an objective. Everybody else tends to think in terms of the dual mandate.

CHAIRMAN BERNANKE. I don’t know what to do.

MR. LOCKHART. Mr. Chairman?

CHAIRMAN BERNANKE. Yes.

MR. LOCKHART. I think we can be too cute here in trying to frame the conditionality. I think the original language, just “incoming information,” is enough.

CHAIRMAN BERNANKE. I take the general concern that, through various communication media, we need to have better explanations of what our criteria are. President Lacker.

MR. LACKER. Well, I’ve changed my mind on this. This would add yet another reference to our mandate, and I think we mention it, what, five or six times? We’re perseverating.

CHAIRMAN BERNANKE. All right. I think we're going to stick with the status quo, if that's okay.

On the insertion of "up to," I agree with the majority of people who spoke about it, in that it seems inconsistent with the notion that we're going to be reviewing this program—we could conceivably increase it, and we could conceivably decrease it. So I don't think that captures the spirit of the program.

Kevin, I'm hoping that you would be satisfied if we took the very last sentence, "The Committee will regularly review," and put it up to the end of paragraph 3—this is something that President Bullard also suggested. Between that and the language about price stability, we have, I think, qualified that and made it more conditional.

MR. WARSH. Just one question. What's wrong with my proposal, if we're using the identical words? Teach me—what's your hesitation?

CHAIRMAN BERNANKE. The problem has to do with the fact that the flow rate is not equivalent to the level of the funds rate. The way we connect these things is by thinking about the total stock of holdings and what the relationship is to the level of the interest rate. I don't think, therefore, that an emphasis on the flow primarily—and I know President Bullard disagrees with me—is enough information. There needs to be some kind of marker about what our expectation is in terms of the total purchases. And I'd like to add that, just as it was easy to stop the \$300 billion Treasury program you mentioned because we had given a number, so it will be easier to stop this if we have given a number. If we just have it open-ended, at every meeting it will be harder and harder to make that decision.

MR. WARSH. I don't really understand. I'm not suggesting that we exclude putting a number in. I'm only suggesting that we begin by stating what we are now committing to do,

with the same verbiage on intents and expectations; that is, this is what we have decided to do today, and the news is the \$75 billion per month. I don't really understand why it defeats the purpose of your and the majority's objective by simply saying "beginning with what we have decided to do today," with your very expectation of what is going to happen by the end of the second quarter.

MR. TARULLO. Kevin, what does it add from your point of view?

MR. WARSH. I think it makes it clear that, should the risks materialize, however remote they may be, the path could change.

CHAIRMAN BERNANKE. But that's why I am suggesting putting this last sentence up into paragraph 3, to make it directly follow.

VICE CHAIRMAN DUDLEY. I think, in particular, the sentence does that.

CHAIRMAN BERNANKE. "The Committee will regularly review"—

MR. WARSH. Well, I think for all the fights that we've had about the right policy, the delta between your ask and my ask is de minimis, so neither of us should be prepared to go crazy about it. [Laughter] But I would say it does indicate to me, if I understand the fierce views held by many, a certain lack of comfort with revisiting this, because I'm talking about the exact same words. I won't fall on my sword over it, but I must say I'm puzzled by why this would be something that causes concern, with the exact same words and the exact same numbers. I think it tries to put the emphasis on what I took from your statements yesterday and today, which is that you're going to review this regularly, and, if the risks arise, you're going to stop. Instead, by leading with \$600 billion, it says: "It will be \$600 billion, and now I'm going to tell you how we're going to get there." I think those are different messages. I won't change my vote because of it, but I must say I'm concerned by the fervor on the other side of the question.

CHAIRMAN BERNANKE. Again, I propose to leave it. I think we need to have the marker as the broad expectation, which is the equivalent of the policy move that we're doing today. I think that's an important marker. I do think, though, that it would be useful—and I hope it helps you some, at least—to put the last sentence up into paragraph 3.

MR. TARULLO. I'm sorry. Kevin, would you mind just reading again what you had proposed?

MR. WARSH. Sure. "In addition, the Committee intends to purchase additional long-term Treasury securities at an average pace of about \$75 billion per month, which is intended to constitute a total of \$600 billion by the end of the second quarter of 2011."

VICE CHAIRMAN DUDLEY. I'm where the Chairman is.

CHAIRMAN BERNANKE. I think it conveys too little conviction. Although I think we all agree we need to monitor the program, I don't think there is a very strong bias, among those who want to go ahead at least, that the expected amount is going to be significantly less. That's an expectation of where we are going to be.

MR. WARSH. I mean, I didn't change any words, so it's hard for me to understand that.

CHAIRMAN BERNANKE. Well, if there's no difference in meaning, then why the concern?

MR. WARSH. Because I think what we're trying to announce is what we're doing, right? And what we're doing, by virtue of this action, is this amount. Again, I'd say there is not a huge difference between us, and I appreciate your moving the other sentence up, but the fervency of the Bernanke-Dudley views on this does strike me as suggesting a difference.

CHAIRMAN BERNANKE. President Lockhart.

MR. LOCKHART. This may be too simplistic a way of thinking about it, but I think there are differences of opinion around the table about how much we want to stress the absolute stock amount. To cut through that, I'd be consistent with what I remember we did when we announced the first LSAP, which was to lead with the amount. I think people are going to parse this statement for every nuance more than they have ever parsed a statement, so to add another invitation to misinterpret what we're saying doesn't make sense to me. If the first time around we said we were going to do a program of X, I would stick with that, just to keep it simple.

CHAIRMAN BERNANKE. It's a conceptual issue. The flow rate is not the choice variable, it's the expected amount that is, in some sense, the choice variable.

MR. BULLARD. Mr. Chairman, we would be letting the markets do the math under Kevin's approach.

CHAIRMAN BERNANKE. I understand that, you know, multiplication is commutative and everything. [Laughter] I understand that.

MR. FISHER. Mr. Chairman, could you read paragraph 3 as it now stands?

CHAIRMAN BERNANKE. Yes. "To promote a stronger pace of economic recovery, and to help ensure that inflation, over time, is at levels consistent with its mandate, the Committee decided today to expand its holdings of securities. The Committee will maintain its existing policy of reinvesting principal payments from its security holdings." The next sentence is unchanged. Then, get rid of "in particular," "The Committee will regularly review the pace of its security purchases and the overall size"—and then that sentence goes on just as it is.

MS. DUKE. I don't see how "in particular" is—

CHAIRMAN BERNANKE. I got rid of "in particular." That's my proposal. Are there any further comments? [No response] Okay. Debbie?

MS. DANKER. The vote will be on the statement for alternative B and the directive that goes with that, as passed out by Bill, except with the four changes, one of them in two places. In paragraph 2 on the fourth line we are adding “over the longer run” between “consistent” and “with its dual mandate.” The final line of paragraph 2 replaces “unacceptably” with “disappointingly.”

CHAIRMAN BERNANKE. And get rid of the “judges that.”

MS. DANKER. And removes “it judges that,” correct. The Chairman just read paragraph 3. Paragraph 4 is unchanged. Paragraph 5 consists now of the one sentence which has been changed along the same lines as the first sentence in 3, so that it refers to “support the economic recovery and to help ensure that inflation, over time, is at levels consistent with its mandate.”

CHAIRMAN BERNANKE. And the last sentence has been moved up to paragraph 3.

MS. DANKER. Correct. As you read it.

Chairman Bernanke	Yes
Vice Chairman Dudley	Yes
President Bullard	Yes
Governor Duke	Yes
President Hoenig	Respectfully, no
President Pianalto	Yes
Governor Raskin	Yes
President Rosengren	Yes
Governor Tarullo	Yes
Governor Warsh	Yes
Governor Yellen	Yes

CHAIRMAN BERNANKE. Thank you. As I discussed yesterday, I’m not going to do any kind of attribution briefing or anything like that today. I am going to do a very generic 800-word op-ed tomorrow morning, which will basically say that the Fed thinks that progress is too slow, and we’ve taken this action. I take the Committee’s discussion at the videoconference



as allowing me to break the blackout period in that way. I'll also have opportunities on Jekyll Island, if comments come up, and, of course, I know many of you have speeches, and so on, coming up.

We also agree tentatively—and I just want to make sure it's okay—that we're going to vote on the minutes and the SEP separately, so that the projections can be released a day early and I can give a press conference related to the projections. Any problem? [No response] And the Desk is going to release its statement. Brian, do you have any comment on your statement—are you still working on it?

MR. SACK. Well, we intend to break the \$110 billion per month figure into its two components and list each in the statement. And we are making changes to the language on the 35 percent limit. We can't quite figure out how to handle some of the suggestions—the “if necessary” language or the “on occasion” language—because it suggests different judgment criteria from what we actually plan to use. We're afraid that would be confusing, so we're trying to soften the language that we're using in the paragraph.

CHAIRMAN BERNANKE. Vice Chair.

VICE CHAIRMAN DUDLEY. I'd like to make one point about the 35 percent limit. That's being driven not by the Desk actions, but by what people are actually offering. And so I think it is really important that we understand it's not the Desk actively seeking to drive the level of securities up, but it's the offerings of securities that happen to be cheap relative to other securities in the market.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. I trust you to be very careful here in the way you word it, because, again, it can be a spark that incites the people who are quite critical of us. You mentioned that some

very smart people are concerned about inflation and about whether we're opening that door. So just be careful, that's all.

CHAIRMAN BERNANKE. President Kocherlakota.

MR. KOCHERLAKOTA. Without trying to get into the business of editing this—I will get into the business of editing it. [Laughter] I would just suggest that you lead with your second sentence, which is about the justification for why it might go above the 35 percent; that is, start by talking about the reasons for that, and then say explicitly, “in order to help maintain liquidity and avoid dislocations in individual securities, SOMA holdings may exceed, on occasion, the 35...”

CHAIRMAN BERNANKE. Okay. You have the spirit of the comments.

VICE CHAIRMAN DUDLEY. There are also the FAQs that will provide more nuance.

CHAIRMAN BERNANKE. You have until 5:00 tomorrow, if you want to make any changes in your forecast. There is lunch available—there's no presentation. Our next meeting is December 14. Thank you again for a very productive meeting.

MR. KOCHERLAKOTA. Where is your op-ed?

CHAIRMAN BERNANKE. *The Washington Post*. The meeting is adjourned. Thank you.

END OF MEETING