

**Meeting of the Federal Open Market Committee on
June 22–23, 2010**

A joint meeting of the Federal Open Market Committee and the Board of Governors of the Federal Reserve System was held in the offices of the Board of Governors in Washington, D.C., on Tuesday, June 22, 2010, at 2:00 p.m., and continued on Wednesday, June 23, 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
Donald L. Kohn
Sandra Pianalto
Eric Rosengren
Daniel K. Tarullo
Kevin Warsh

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

Jeffrey M. Lacker, Dennis P. Lockhart, and Janet L. Yellen, Presidents of the Federal
Reserve Banks of Richmond, Atlanta, and San Francisco, respectively

Brian F. Madigan, Secretary and Economist
Matthew M. Luecke, Assistant Secretary
David W. Skidmore, Assistant Secretary
Michelle A. Smith, Assistant Secretary
Thomas Baxter, Deputy General Counsel
Richard M. Ashton, Assistant General Counsel
Nathan Sheets, Economist
David J. Stockton, Economist

Thomas A. Connors, William B. English, 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

Jennifer J. Johnson, Secretary of the Board, Office of the Secretary, Board of Governors

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

Robert deV. Frierson,¹ Deputy Secretary, Office of the Secretary, Board of Governors

¹Attended Tuesday's session only.

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

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

Linda Robertson,² Assistant to the Board, Office of Board Members, Board of Governors

Nellie Liang, Dave Reifschneider, and William Wascher, Senior Associate Directors, Division of Research and Statistics, Board of Governors; William Nelson, Senior Associate Director, Division of Monetary Affairs, Board of Governors

Seth B. Carpenter, Associate Director, Division of Monetary Affairs, Board of Governors

Christopher J. Erceg, Deputy Associate Director, Division of International Finance, Board of Governors; Michael G. Palumbo and Joyce K. Zickler, Deputy Associate Directors, Division of Research and Statistics, Board of Governors

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

Fabio M. Natalucci, Assistant Director, Division of Monetary Affairs, Board of Governors

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

Beth Anne Wilson, Section Chief, Division of International Finance, Board of Governors

John C. Driscoll and Jennifer E. Roush, Senior Economists, Division of Monetary Affairs, Board of Governors; Andrea L. Kusko, Senior Economist, Division of Research and Statistics, Board of Governors; John W. Schindler, Senior Economist, Division of International Finance, Board of Governors

Penelope A. Beattie, Assistant to the Secretary, Office of the Secretary, Board of Governors

Valerie Hinojosa and Randall A. Williams, Records Management Analysts, Division of Monetary Affairs, Board of Governors

Patrick K. Barron and John F. Moore, First Vice Presidents, Federal Reserve Banks of Atlanta and San Francisco, respectively

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

² Attended Wednesday's session only.

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

Daniel Aaronson, Todd E. Clark, and Andreas L. Hornstein, Vice Presidents, Federal Reserve Banks of Chicago, Kansas City, and Richmond, respectively

Joshua L. Frost, Assistant Vice President, Federal Reserve Bank of New York

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June 22—Afternoon Session

CHAIRMAN BERNANKE. Good afternoon, everybody. Let me update you on our Board nominees. With some luck, we expect to have hearings before the Senate Banking Committee in the next three weeks or so. And with some skill and luck, we might have our additional members here for the August meeting. However, because we remain without reinforcements—[laughter]—I took the liberty of asking Governor Kohn to hang around for another meeting, and he very kindly agreed. That will not stop us from honoring you tomorrow at lunch, but we appreciate your willingness to stay on for a bit longer.

As usual, this is a joint Board–FOMC meeting, so I need a motion to close the meeting.

MR. KOHN. So moved.

CHAIRMAN BERNANKE. Thank you. The first item is our briefing on financial developments, open market operations, and System facilities. Brian, you have a lot of work to do today. Let me turn to you first for open market developments.

MR. SACK.¹ Thank you, Mr. Chairman. The evolving fiscal situation in Europe and worries about global economic growth prospects dominated the attention of financial market participants over the intermeeting period.

Investors have remained concerned about the fiscal positions of some European countries, despite the austerity measures and other policy efforts announced to date. Those concerns have been reflected in the pricing of sovereign risk for countries in the so-called European periphery, as indicated by the yield spreads shown in the upper left panel of the first exhibit. The policy steps announced by the European Commission and the European Central Bank on May 10 led to an immediate and significant improvement in those spreads, but they have widened since then as investors have questioned whether the steps taken are sufficient to mitigate the risks involved.

The developments surrounding sovereign debt have also amplified investors' concerns about the health of European financial institutions perceived to have

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

significant exposures to these countries. The pressures on these institutions arise from their direct exposures to sovereign debt, from questions about the ability of their respective governments to backstop them, and from the contractionary effects of the fiscal adjustments required in some countries. In response, share prices of euro-area banks have fallen significantly since the beginning of the year, and CDS spreads, shown in the upper right, have moved up notably.

These developments have generated strains in short-term funding markets, including those for dollars. Many European financial institutions still hold large amounts of dollar-denominated assets and finance a sizable portion of those holdings in short-term dollar-denominated funding markets. In the presence of concerns about the status of these institutions, investors have become more reluctant to extend term funding to many of them.

This reluctance has pushed term funding rates higher, with the spread of the three-month U.S. dollar LIBOR relative to OIS moving above 30 basis points, as shown in the middle left panel. Moreover, forward rates suggest that the LIBOR-OIS spread is expected to continue widening in coming months to near 50 basis points. That is a significant improvement relative to late May, when the LIBOR-OIS spread was expected to surpass 70 basis points, but it is still indicative of a market under pressure.

As shown to the right, the amount of commercial paper issued in U.S. markets by foreign financial institutions has been falling, a further sign of the pullback by investors. Moreover, many European institutions have had to shift their funding into shorter tenors, with some institutions limited to maturities of a week or less. The market has had a somewhat more favorable tone over the past several weeks, with some core European firms reportedly able to obtain longer-term funding on better terms, but such funding remains unavailable for many European institutions.

One factor that has likely influenced the dynamics of funding conditions is the presence of the liquidity swap arrangements that the Federal Reserve established with the Bank of Canada, the Bank of England, the European Central Bank, the Swiss National Bank, and the Bank of Japan. There is currently only a very small amount of credit extended through the liquidity swap arrangements, as shown in the bottom left panel. The limited usage of the swaps reflects the fact that their pricing is still unattractive relative to the funding rates available in the market. Nevertheless, the presence of the swaps has provided a backstop for dollar funding markets and has likely helped to prevent a more significant deterioration.

In contrast to the limited activity in its dollar operations, the ECB has been actively providing euro-denominated funding to the markets. Indeed, to address the demand for euros, the ECB decided to return to a fixed-rate, full-allotment offering at its three-month open market operations, and it added a six-month operation as well. As shown in the bottom right panel, the amount of euros injected by open market operations has risen from already high levels. At the same time, the amount of funds

on deposit at the ECB has been increasing rapidly. These patterns indicate that the ECB has increasingly acted as an intermediary, providing funds to those counterparties who cannot find them on favorable terms in the market and taking in funds from other counterparties.

In an attempt to provide more confidence to investors, European Union leaders announced late last week that they would release the results of stress tests for some of the largest European financial institutions, although further details remain limited at this time.

The developments in Europe have had implications for broader financial conditions in the United States. As shown in the upper left panel of exhibit 2, the euro has depreciated notably against the dollar since early this year, with the movement becoming more rapid over the intermeeting period. On net, the dollar has gained 6 percent against the euro since the last FOMC meeting.

At the same time, investors have become more wary of holding risky assets over the past two months, causing broad equity indexes to fall sharply, as shown in the upper right panel. This flight from risk has been driven in large part by the deepening concerns about the European fiscal situation and its potential consequences for global growth. However, some weak domestic data releases and considerable uncertainties surrounding regulatory reform efforts have likely contributed to this movement as well. On balance, the S&P 500 index has declined more than 5 percent since the last FOMC meeting.

As shown in the middle left panel, those same factors have led to some widening of corporate bond spreads, a notable shift from the steady rally since early 2009. Similarly, some backtracking has been observed in the spreads on other private credit instruments, such as commercial mortgage-backed securities and, to a much lesser extent, consumer-related asset-backed securities.

The greater concerns about growth prospects, along with the uncertainties associated with regulatory reform efforts, have weighed on U.S. financial institutions. Share prices of those institutions have modestly underperformed the broader market, and CDS spreads for these institutions have risen some on average, as shown to the right. Note that U.S. financial institutions have not been strongly affected by the pressures in dollar funding markets, in part because they are seen by investors as more creditworthy and are not as reliant as some European institution on unsecured term funding.

Going forward, the evolution of the fiscal situation in Europe will continue to pose risks across global financial markets. Our recent survey of primary dealers provides a snapshot into how the situation may evolve, with the range of outcomes considered listed in the bottom left panel. Even though respondents put significant odds on the possibility that meaningful fiscal austerity measures would be implemented, they still saw a sizable chance that one or more credit events would

take place in the euro area. Moreover, a nontrivial probability was even placed on a country leaving the euro zone altogether. Thus, market participants are not ruling out outcomes that could be quite disruptive to financial markets.

The survey question reported to the right focused on the extent to which these sovereign risk concerns could spill over to the U.S. economy going forward. In March, the last time we asked this question, nearly 80 percent of the respondents saw the effect as minimal. However, most respondents now see the European situation as having a moderate effect on the U.S. economy.

Your final exhibit focuses on developments in U.S. interest rate markets. Given the volatility in financial markets and increasing concerns about growth prospects, investors have pushed out the expected timing of monetary policy tightening, as shown in the upper left panel. Current futures prices do not price in policy tightening until well into 2011. Moreover, the Desk's primary dealer survey indicates that the median expectation is for policy tightening to begin in the second quarter of next year, about a quarter later than what was expected in the last survey.

Given the shift in policy expectations and the elevated demand for safe assets, Treasury yields have fallen sharply, as shown in the right panel. The two- and ten-year yields have declined 24 and 44 basis points, respectively, since the last FOMC meeting.

Some of the movement in Treasury yields reflected a drop in breakeven inflation rates, shown in the middle left panel. Investors may have lowered their expectations of future inflation or reduced the odds that they are placing on upside inflation outcomes in response to the increased concerns about growth prospects and the benign incoming data on inflation itself. The mode of the distribution of long-term inflation expectations from our dealer survey has edged down as well.

Rates on agency mortgage-backed securities moved roughly in line with those on Treasury securities. Indeed, as shown in the middle right panel, option-adjusted MBS spreads have remained relatively low since the end of our large-scale asset purchases, despite edging higher from late last year. The narrow level of spreads, along with the sizable rally in Treasuries, has brought conforming mortgage rates back to near their lowest levels observed in recent years.

Trading activity in the agency MBS market has remained intact, but market functioning has suffered in other dimensions. Specifically, settlement fails, shown in the bottom left panel, have risen sharply in recent months. This pattern stems from the low level of short-term interest rates, which reduces the cost of failing, and from a lack of available supply. The supply shortage has been exacerbated by the Federal Reserve's sizable holdings of MBS.

While fails have occurred across a range of securities, the situation is most problematic in higher coupon securities. In those issues, there is a backlog of trades

that are having difficulty reaching settlement, and there is no new production of securities to alleviate those shortages since mortgage rates have moved to lower levels. As can be seen to the right, the net supply of Fannie Mae 5.5 percent coupon mortgage-backed securities (or “FNMA 5.5s”) has been declining, as prepayments have outpaced new origination. New origination has instead moved to lower coupons, such as FNMA 4.5s, increasing their supply.

The settlement issues in the market have affected the Federal Reserve’s operations as well. Specifically, the Desk has encountered difficulty reaching settlement of all of its purchases of FNMA 5.5s. About \$9 billion of these bonds have proven difficult to settle, and it is unlikely that primary dealers will deliver these securities anytime soon, given the supply shortage in the market. Accordingly, if the FOMC is intent on achieving settlement of its MBS purchases in a timely manner, further actions by the Desk will be required.

Given those circumstances, the FOMC may want to give the Desk the authority to conduct coupon swap transactions. These transactions would allow the Desk to effectively exchange our unsettled holdings of FNMA 5.5s for other agency MBS that are more readily available for settlement. Further details on this recommendation were provided to the FOMC in a memo in advance of this meeting. Here I will review some of the key points.

A coupon swap is a trade with a single counterparty in which the Desk would agree to simultaneously sell one coupon, in this case the FNMA 5.5s, and buy an equal amount of a different coupon, say the FNMA 4.5. This operation would effectively net the Desk out of the outstanding transaction in which we are owed the FNMA 5.5s. We would still be left with an outstanding transaction in which we were owed the FNMA 4.5, but we see a much greater chance of delivery of that security, given its more ample supply.

Coupon swaps are very common transactions in the MBS market. The trade is quoted at a single price, reflecting the spread between the prices of the two coupons, and can be transacted with primary dealers over the same Tradeweb system that we have used to conduct outright purchases and dollar roll transactions. We would be transacting at market prices, ensuring that we are adequately compensated for the shift in portfolio composition.

Note that it is the sell leg of the coupon swap that alleviates the Desk’s settlement problems. The Desk could have a similar effect on settlement if it were simply to sell \$9 billion of FNMA 5.5s on an outright basis. Addressing the situation through a coupon swap, rather than an outright sale, is intended to avoid any confusion in the market about whether the Fed is entering a sales regime.

If the Committee agrees to move in this direction, it will require a change in the policy directive from the FOMC. The Tealbook presented one possible option for amending the language of the directive to allow for coupon swaps.

In addition, it would be desirable for such a change in strategy to be accompanied by a more extensive explanation of the scope and intent of the coupon swaps in order to avoid confusion among market participants. One possibility is to have the Desk release an operating statement that would specify the details and rationale for the coupon swaps. The message could be that these operations are technical in nature and are being undertaken to facilitate settlement of a specific amount of our previous agency MBS purchases. To begin applying the approach for the July settlement period, the Desk would need to release the statement and to begin transacting before the release of the minutes from the June FOMC meeting.

Thus, I am asking the Committee both if it is comfortable moving forward with coupon swaps and if it is willing to have this direction communicated by the Desk ahead of the release of the minutes.

Before closing my briefing, I will offer a brief update on the development of our reserve-draining tools. As noted in the Tealbook, the term deposit facility has attracted interest from a number of depository institutions. Nearly 400 institutions have now registered for the TDF, and these institutions in aggregate hold well over \$500 billion in reserve balances at this time. The first small-value TDF auction, a \$1 billion offering of 14-day deposits, was held on Monday, June 14. The auction proceeded smoothly, and the automated systems supporting it performed well. A total of 71 institutions submitted 156 competitive bids at the auction, resulting in a bid-cover ratio of over 6. Of those, 13 institutions were awarded term deposits at the auction stop-out rate of 27 basis points. In addition, 38 institutions submitted noncompetitive tenders that totaled \$152 million, which were awarded in full at the auction stop-out rate.

The second small-value auction will offer 28-day term deposits and will be held next Monday. The staff has recommended to the Chairman that the amount offered at this auction be raised to \$2 billion. The somewhat larger offering amount may allow for a greater number of institutions to win awards and, judging by the high bid-cover ratio at the first auction and the tone of our conversations with large institutions, should be readily taken up. A third small-scale operation is scheduled for July, which will be an 84-day operation.

The staff has also made further progress on developing our large-scale reverse repo capabilities. We continue to work on the legal arrangements to conduct transactions with primary dealers using agency MBS as collateral. As a reminder, we are already fully operational in our ability to do such transactions using Treasury and agency debt as collateral.

We have also moved closer to bringing the first wave of expanded counterparties online. Recall that we received applications to join the program from 26 different money market mutual funds. Our credit, legal, and compliance teams have finished their reviews of these applications, and we are now working towards completing and

executing the relevant legal documentation. The Desk expects to be able to announce the first wave of expanded counterparties by August, which would then be followed by small-scale transactions with those firms.

Overall, the staff has made decent progress in readying both draining tools and will continue to work towards expanding the capacity of those tools to remove reserves when needed. Thank you.

CHAIRMAN BERNANKE. Thank you. Are there questions for Brian, either on market developments or on these two operational issues—the coupon swap or the draining tools? Any questions for Brian? President Hoenig.

MR. HOENIG. You mentioned in your comments, Brian, the possibility of selling MBS and indicated that this coupon swap might be a better alternative. Given the demand there is for MBSs, and the lack of supply, do you think selling our MBSs would be disruptive to the market? Or, with the right explanation, would it be helpful to the market? My own view is that it might be helpful, given some of the conversations that I have been in with bankers.

MR. SACK. Strictly in terms of market functioning, I think selling a small amount of MBS would be helpful. As I mentioned in the briefing, it's the sell leg of the coupon swap that alleviates some of the pressures that we see in the market. Of course, the decision of whether we want to enter into a regime of selling assets doesn't depend just on the market functioning, but it also depends on how it would affect financial conditions. Depending on the size of that approach, the risk is that it could lead to a rise in long-term interest rates. But in terms of a pure market functioning perspective, the market is very tight right now, and some more supply, particularly of these higher coupon securities, would probably be helpful.

MR. HOENIG. Mr. Chairman, the reason I ask is that I've had some—not many, but some—bankers of the \$10 billion size saying, “We can't get these. These are things we would like. Why don't you sell some of them?” And I thought it was a very fair question to ask us.

CHAIRMAN BERNANKE. Okay. Vice Chairman.

VICE CHAIRMAN DUDLEY. I want to follow up on that point, and then I have another set of questions. We could potentially alleviate the supply issues by doing other swaps if we wanted to, as opposed to actually selling assets outright, right? We have other 5.5 percent coupons in our portfolio, so, in principle, if we wanted to address the market functioning, we could think about doing other swaps. Is that correct?

MR. SACK. That's correct. The proposal here is only to do the coupon swaps for the \$9 billion of unsettled transactions. There is a broader question about whether there could be some swap program that would be broader to address market function. I think your point is right.

VICE CHAIRMAN DUDLEY. So, on the market function issue, that might be worth evaluating, in order to see if it's a good idea or not.

The second thing I wanted to ask is about reserve-draining tools.

MR. HOENIG. May I?

VICE CHAIRMAN DUDLEY. Sure.

MR. HOENIG. But part of my goal would be to shrink our balance sheet as well, without disrupting the market. So I don't want to get confused in terms of where my objective is relative to that.

VICE CHAIRMAN DUDLEY. I understand. The question I want to ask is on the reserve-draining tools. As I see it, we have four of them, right? We can run off maturing assets, we can do asset sales, we can do term deposit accounts, we can do reverse repos. My question is: Have we really evaluated what our preferences are among those four things? Do we pull each lever equally, or do we prefer one lever over another?

A related issue is: How do we think about our preferences in terms of the cost?

Presumably the costs of all of these things are not going to be quite the same—either the interest expense that we're paying to borrow the money or the forgone interest in letting the maturities run off. Has the staff started to do any work on this?

MR. SACK. Well, certainly, a distinction has been drawn between selling assets or letting the balance sheet run down on the one hand, and using the reserve-draining tools on the other. I think the staff has pointed out that the former tools, including asset sales, have additional effects, because they put duration back out into the markets and presumably put upward pressure on long-term interest rates. In contrast, the draining tools don't do that—they simply get reserves out and improve our control of short-term interest rates. I think that distinction has been made pretty clearly in the staff memos. We haven't gone a further step and asked the question about which draining tools would be more costly, for example, comparing term deposits and reverse repos. I think it's hard to judge right now which one might be more costly, but it's something we can certainly continue to think about.

VICE CHAIRMAN DUDLEY. I presume that, once you do the test, you'll get some evidence about where the market wants to clear, at least for small quantities.

MR. SACK. Right.

VICE CHAIRMAN DUDLEY. But you still won't know exactly what the supply curve is for bigger quantities.

MR. SACK. Right. And, of course, there's always the possibility of having a very dynamic strategy and making adjustments over time, because we certainly will learn a lot about the effects of the tools as we start to use them in greater size.

VICE CHAIRMAN DUDLEY. Yes. I just want to suggest that the cost should be one of the parameters, because there is an effect on the taxpayer in terms of how we do this, namely, what the net amount of money that we rebate to the Treasury is. So I think that should be one of the criteria, though certainly not to the exclusion of all the other criteria.

CHAIRMAN BERNANKE. Okay. President Fisher.

MR. FISHER. Thank you, Mr. Chairman. I want to come back to President Hoenig's point. I'm a little uncomfortable with the idea of swaps on the FNMA 5.5s. I'm intrigued by the idea of actually making outright sales, assuming the market would accommodate them without backing up significantly. We bought them for a purpose; the purpose was achieved; your own charts show the accomplishment that took place in terms of their present levels. But your chart 17 on MBS fails tell us there's an imbalance in the marketplace. I would imagine, although I'm guessing, that we probably would have a profit on these instruments. I'm not sure.

You also gave some other pretty compelling arguments: the flight from risk that you noted—these are absolutely government-guaranteed securities, and, not unimportantly, the extension of expectations as to when we are going to tighten, which ought to provide any buyer of these securities, assuming they're available at a decent price, some comfort that it will be some time before we tighten and might push up yields on the longer end. My guess is, given what I used to do for a living, that sales would go well. Let me give you an example of how things worked—it's an exaggeration, but it illustrates the point. We would go to a large group, Fidelity or anybody else, and say, "We're willing to give you a portfolio, a very large one, of these mortgage-backed securities." They would have no trouble finding investors to take down these coupons as they now are, because otherwise their yield on cash is negligible.

So, Mr. Chairman, I would like to suggest, if we're going to talk about coupon swaps, that we broaden the discussion to talk about selling outright, and perhaps buying short-term Treasury bills. The objective would be to affect our portfolio, assuming this could be done without sending a signal that we're tightening monetary policy.

We have experimented with demand deposits, with repos, and so on. I'm wondering, Mr. Chairman, if there's not a way we could do this and send a signal to the marketplace that this doesn't have implications for monetary policy, but that we do have an imbalance in the marketplace, and we're seeking to solve that imbalance, rather than getting into the business of swaps, which, I think, just prolongs the issue.

So here's my bottom-line question: Would we consider outright sales, taking advantage of the fact that we will probably book a slight profit, take the proceeds, buy shorter-term Treasuries that help shorten the duration of the portfolio, and sell into a market that seems to be eager to buy this kind of paper? That would be my question. I suppose it's a Committee question. I'm not putting pressure on Brian, but Brian gave us a partial answer and indicated that there was a market appetite for these securities.

CHAIRMAN BERNANKE. President Fisher, your conditional clause there was very important, that we would have to do this in a way that didn't signal broader monetary tightening, and our ability to do that is at least debatable.

MR. FISHER. Exactly.

CHAIRMAN BERNANKE. We can certainly debate it. After the next round, where Brian is going to talk about redemptions, we have an open discussion period, and at that time we could talk about the broader policy issue, if you would like. Let me suggest that, at this point, we consider the Desk's proposals—assuming for the moment that we don't go into a broader

selling regime—with the understanding that, if we were to begin to sell, that would then dominate these kinds of strategies. So let's assume for the purpose of this discussion that we're not going to be selling, but then we can discuss that broader policy issue—it's really not a technical issue; it is a broader policy issue—in the discussion period in just a few minutes.

Okay?

MR. FISHER. As long as it doesn't preclude our having that discussion.

CHAIRMAN BERNANKE. Absolutely not.

MR. FISHER. I think that's totally fair. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Okay. Any other questions for Brian? President Lacker.

MR. LACKER. Yes. Thank you, Mr. Chairman. In chart 17, the MBS fails, there's a pretty big number, \$700 or \$800 billion. How much of that is in the 5.5 coupons? Actually, I don't care how much is in the 5.5s. How much is in the 4.5s? Are there fails in the 4.5s now?

MR. SACK. We don't have complete data on the distribution of fails across coupons. We believe that more than half the fails are in the 5s and the 5.5s. I highlighted the 5.5s. There are fails as well in the 5s. And there are fails across the coupon stack. But it's certainly concentrated in higher coupons.

MR. LACKER. But there are fails in the 4.5s, you suspect?

MR. SACK. I think there are, but they're much more limited, and we are, as I said in the briefing, much less worried about delivery of the 4.5s, and even the 5s, because there is still production in those coupons. Actually, there are other market dynamics that are somewhat complicated that are increasing the supply of deliverable securities into the TBA market. Some of the older vintages of those coupons are cheapening up enough to come into the TBA market.

So, as I said, we're particularly worried about the 5.5s, and much less worried about the 5s, and much, much less worried about the 4.5s.

MR. LACKER. In our purchase agreement, if our counterparty is failing to us, what obligation do we have? Can we cancel it? Can we unwind it? Can we renege?

MR. SACK. We can do any of those things. The question is: What obligation do they have? They owe us the security and aren't delivering it. They have an obligation to deliver. There's an ability to fail, essentially without penalty now, because the short-term interest rates are close to zero. And after several months, we have the right to initiate buy-in procedures, which would essentially force a negotiation with the counterparty for terms at which the transaction would be canceled.

Our view is that going down the road of forcing delivery, whether just through communications with the primary dealers or eventually through initiating buy-in procedures, would be even more disruptive to market functioning. We're seeing all of these pressures in the market right now under a strategy where we're allowing the counterparties to fail and where we're actually doing dollar rolls to postpone their settlement. So our view is that, if we turned around and forced delivery of that final \$9 billion, it would tighten that coupon significantly and be very disruptive to the market.

MR. LACKER. You described the transaction as a sale. To some extent, it's just like saying you have an option, and you engage in the opposite option, and that cancels the first option contract—right?—and any sort of forward thing. You could use the word “unwind” for that, right?

MR. SACK. Right.

MR. LACKER. So you could describe it any way we want. We could say we dumped \$9 billion on the market, or we could say we've unwound a transaction that had failed. And you could describe it in sort of antiseptic terms, couldn't you?

MR. SACK. That's right. Whether we sell outright or do the coupon swap, what we're doing is we're unwinding that transaction, but we're doing it at market prices, as opposed to the other procedures.

MR. LACKER. Forcing through, right.

MR. SACK. Right.

MR. LACKER. Do you really think that if we said we were doing this one time because of the fails, then markets would believe we were sneakily taking the first step down the road to an asset sales program? You really don't think we can convey to markets that this is a one-time deal?

MR. SACK. I think you probably could effectively communicate that. We just thought the coupon swap was a simple, elegant solution to it, because it's a common transaction in the market, and because it provides 100 percent clarity that the Fed is not starting a sales regime.

MR. LACKER. But, to some extent, you're just shifting the problem to the 4.5s, where the problem isn't as strong. But, on net, there are all of these fails in MBS. Ironically we entered this market to improve functioning of financial markets, and now we seem to be a force for bad in this market rather than a force for good.

CHAIRMAN BERNANKE. It's important to understand that fails can occur for two reasons. One is a shortage of security. The other is because the interest rate is so low and there's no penalty for not delivering. In the Treasury market, of course, there are penalties for not delivering, and there are essentially no fails in that market. There is under way, I understand—

Brian, you can correct me—a process now to have an analogous penalty in the MBS market. Presumably, at least for the 4.5s, that must be the principal source of the fails.

MR. SACK. Right. That effort is under way. It is a complicated issue that the Treasury Market Practices Group is studying. But let me make one point clear: Market conditions in the 5.5s are extremely different from those in the 4.5s or the 4s—extremely different. So we think it's highly unlikely that we would do the coupon swap and then find ourselves in such a difficult situation with the new coupon we enter into.

CHAIRMAN BERNANKE. Other questions? President Lockhart.

MR. LOCKHART. Shifting to the time deposit trial, do you have a sense, when we really do this at scale, of what will happen to the rate that clears the market?

MR. SACK. I would say that we don't have a strong sense. There are reasons to think that the capacity of the facility should be pretty high at relatively low rates. As mentioned, the institutions that have signed up for the TDF hold a large amount of excess reserves currently—over \$500 billion. They're holding those earning, obviously, the interest rate on excess reserves, so we think that's a situation that will lead to significant demand—that is, they're able to pick up some yield by entering into the term deposits. But I don't have a more precise answer than that.

CHAIRMAN BERNANKE. President Plosser.

MR. PLOSSER. I'd just like to emphasize that I kind of agree with President Lacker and President Hoenig here. I don't see any reason why we cannot just unwind this position, sell our claims to these 5.5s to somebody else, and get out from it, and explain that given the short supply of these securities and the demands out there for them, that this is a technical operation. I think we can do this without aggravating the situation or engendering the belief that this is the beginning of a more aggressive selling campaign. Given the number of fails, \$800 billion—I

think I remember we've got about \$9 billion in these securities, so it's a relatively small volume here.

MR. SACK. \$9 billion that has not settled.

MR. PLOSSER. Yes, right. That's what I meant, the \$9 billion that hasn't settled. My understanding is that we've got an awful lot of the 5s and 5.5s on our balance sheet already. So I would really be in favor of not doing the swaps but of unwinding the position and putting them back out in the market. That's my view. Thank you.

CHAIRMAN BERNANKE. Is there a way to cancel the transaction without loss, as opposed to having to go out and actually sell to a third party?

MR. SACK. Yes. We can negotiate with the counterparties and cancel the transaction at a negotiated price. We thought there was an advantage to doing what effectively cancels the transaction, but doing so at market prices.

VICE CHAIRMAN DUDLEY. As an arm's-length transaction.

MR. SACK. Exactly.

MR. PLOSSER. Excuse me, I don't quite understand. There are two sides to that transaction. You're doing a swap to get rid of those 5.5s in exchange for the 4.5s.

MR. SACK. Right.

MR. PLOSSER. What we're saying is, why don't we just do one side of that transaction?

MR. SACK. Yes. I understand your point.

MR. PLOSSER. I guess what I'm saying is: Why isn't there a market price for that as well?

MR. SACK. Yes, I am sorry. Whether you do it as a pure sale or a coupon swap, you are using market prices to essentially cancel the 5.5s, that's correct.

CHAIRMAN BERNANKE. Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. I understand Tom Hoenig's position, which is very straightforward and consistent with what Tom has said before, namely, that he'd like to begin to reduce the size of the balance sheet. That's why, when presented with Brian's issue, he responds accordingly. But I'm, maybe not bemused, but a bit interested in, Charlie and Jeff, how you are parsing this. On the one hand, you say, "Couldn't we explain it in a purely technical fashion?" On the other hand—this may be the equivalent of taking judicial notice—I'm aware of your views on asset sales as well. So I'm wondering: Aren't you, in all honesty, sort of motivated by some of the same things that are motivating Tom? And if that's true, isn't this saying, "Well, couldn't we convince people that it's really technical?" even though it may not be the sole motivation that we would have for doing it?

MR. LACKER. I'll start. It's true. I'll admit it. There's this third option, but let's focus on the choice between selling \$9 billion and swapping \$9 billion of 4.5s. Let's suppose we sell \$9 billion, and then we decide whether to buy 4.5s. At this point, I look at financial conditions, I look at the market, and I ask, "Why buy 4.5s?" Would I like to start selling assets? Sure. But, to me, that's separate, that's not on the table today.

MR. PLOSSER. I'll stand by his answer. That's a good one.

CHAIRMAN BERNANKE. President Lockhart.

MR. LOCKHART. Just to clarify, if you think in terms of a general market observer: If you do the swaps, the balance sheet stays the same; if you follow Jeff's provision, the balance sheet shrinks. And the interpretation of that is what we are debating, right?

MR. SACK. Correct. I think the coupon swaps are a very simple technical adjustment. It's as if, along the way to buying \$1¼ trillion of assets, we had just bought \$9 billion less of the

5.5s and bought \$9 billion more of the 4.5s. If we had done it along the way, I don't think anyone would be sitting here talking about it. Unfortunately, we got caught with the settlement problem. But I think there's a very simple, commonly used solution in the market, which is the coupon swaps. Of course, we're doing transactions already to facilitate settlement: We're doing dollar rolls, where we're willing to swap settlement across delivery days. And this is just another variant of that, except that it gives us some range to swap across coupons.

CHAIRMAN BERNANKE. I can see that this question is not as separable from the broader ones, as I had hoped. We will have an opportunity discuss the broader issues in just a minute, if that's okay. Does anyone else have any questions for Brian on either this issue or the broader market concerns? President Fisher.

MR. FISHER. Just for clarity here, in following up on President Lockhart's question: If we were to sell these and buy Treasury bills, we don't shrink our balance sheet, is that correct?

MR. SACK. That's correct.

MR. FISHER. Thank you.

CHAIRMAN BERNANKE. President Kocherlakota.

MR. KOCHERLAKOTA. I'll just say briefly now that in a few minutes I will speak in favor of selling in general. But I think that's a distinct policy decision we should contemplate and discuss. Speaking for myself, I think this is a perfectly reasonable way to address this particular problem.

CHAIRMAN BERNANKE. Thank you. Anyone else? [No response.] As I said, we'll come back to this issue. We now turn to Brian Sack for a briefing on the Treasury redemption issue. This was—like the first issue—also supported by a memo last week. Brian.

MR. SACK.² The Committee at its last meeting requested further analysis of options related to the reinvestment of SOMA Treasury holdings. In response, the staff circulated a memo ahead of this meeting that presented a few options, which I will now review.

Under the current strategy, the Federal Reserve fully reinvests its maturing holdings of Treasuries into newly issued Treasury securities under the following procedure. For Treasury bills, the Desk exchanges the proceeds received from all bills maturing on a given day for an equal quantity of the new four-week bill issued that day. For coupon-bearing securities, the Desk takes the proceeds received from all coupon securities maturing on a given day and allocates them across all new coupon securities being issued that day, such that the SOMA acquires an equal percentage of each new offering.

This strategy implies that decisions about the tenor of these reinvestments are not driven by portfolio considerations, such as the duration or liquidity of the SOMA. Instead, this reinvestment policy maintains a constant allocation between bill and coupon holdings and allows the composition of coupon holdings to be driven by Treasury debt issuance decisions.

This strategy will not actively reverse some of the portfolio changes that took place amid the extraordinary policy efforts beginning in 2007. Two major changes should be noted. First, over 2007 and 2008, the Federal Reserve reduced its Treasury bill holdings dramatically by allowing bills to mature without reinvestment and by conducting outright sales in order to sterilize its lending operations. Indeed, SOMA holdings of Treasury bills declined from \$277 billion in mid-2007 to just \$18 billion at the end of 2008. Second, the FOMC decided to purchase \$300 billion of longer-term Treasury securities in 2009.

The effects of these two changes can be seen in the upper panels of your handout. As shown to the left, the total size of the Treasury portfolio is not far from where it would have otherwise been, since the large-scale purchases essentially offset the rundown in bills and other securities. Nevertheless, as shown to the right, the change in the composition of the portfolio has resulted in a sharp increase in the duration of those holdings.

More details about these changes can be found in the table in the bottom panel by comparing pre-crisis readings (the first column) to current readings (the second column). The size of the Treasury portfolio is currently \$772 billion, compared with \$786 billion before the crisis. However, the duration of the portfolio has increased from 2.6 years to 5.5 years. Moreover, the portfolio now has very little maturity liquidity, with only \$85 billion of securities maturing within a year, compared with \$402 billion before the crisis.

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

Going forward, the current reinvestment policy for Treasury holdings could be altered in two broad directions. The first direction is to shorten the maturity of our Treasury reinvestments, even if we continue to roll over the full amount of maturing securities. This possibility was covered by two specific options discussed in the memo, labeled options 2 and 3, which differ only in terms of whether the reinvestments include short-term coupon securities in addition to bills. These two options leave the overall size of the Treasury portfolio unchanged but shorten its duration over time. The second direction is to redeem maturing holdings of Treasury securities. This approach, labeled option 4, shrinks the size of the Treasury portfolio but leaves its duration about unchanged.

The characteristics of the Treasury portfolio in mid-2013 that are realized under each of these options are shown in the table.

Let me begin with the effects of maintaining the current reinvestment strategy, or option 1. The primary advantages of this choice are that it avoids any communications challenges surrounding a change in policy and eliminates any risk of prompting an increase in long-term interest rates. As can be seen in the table, this approach leaves the duration of the portfolio about unchanged from current levels, at 5.3 years, and it only slightly improves the degree of liquidity maturity of the SOMA, with about \$127 billion of securities maturing within one year.

Reinvesting in shorter-term securities, options 2 and 3, instead offers the advantage of returning the Treasury portfolio towards its previous characteristics of having lower interest rate risk and more maturity liquidity. As shown in the table, the duration of the portfolio declines to below four years in each case, and the amount of securities maturing within one year jumps to \$211 billion for option 2 and to \$379 billion for option 3. However, this approach could lead to a modest increase in longer-term interest rates, as the SOMA would be removing less duration from the market over time. It would also involve a communications challenge, as the FOMC would have to explain the reasons for the change in policy.

Redeeming maturing Treasury securities, option 4, is the only option that shrinks the size of the balance sheet, with Treasury holdings falling to \$477 billion by mid-2013. This approach removes reserves from the banking system, thereby reducing the potential need to drain reserves using other tools. It could also reduce upside risks to inflation expectations under the assumption that the size of the balance sheet influences those expectations. The duration of the portfolio remains about unchanged from its current level, but the smaller size of the portfolio means that the SOMA holds less interest rate risk.

One concern with this approach is that it would come as a considerable surprise to financial markets. According to our dealer survey, the odds placed on full redemptions at this time are less than 1 percent. A decision to move in this direction, therefore, would likely produce an increase in long-term interest rates as portfolio balance effects unwind. If the change were seen as suggesting a stronger inclination

of the FOMC to exit more quickly from its accommodative policy stance, the market reaction could be more sizable. As noted earlier, the risk of such a market response is also present, though to a lesser degree, under options 2 and 3.

Let me close by making one last point. Under each of the options discussed here, the Desk will likely end up engaging in secondary market purchases of Treasury securities by 2014 or 2015. These purchases will be fairly substantial in size, in order to meet the regular growth of the overall portfolio and to offset any sales or redemptions of agency debt and mortgage-backed securities that are occurring at that time. Accordingly, those purchases will provide the FOMC with another opportunity to shape the maturity structure of the Treasury portfolio. Thank you.

CHAIRMAN BERNANKE. Thank you. I think we're going to end up having a go-round, so everyone is going to get a chance to give their views. For the moment, let's just restrict ourselves to questions for Brian. Does anyone have questions? President Kocherlakota.

MR. KOCHERLAKOTA. Brian, I have a couple of questions about market effect in the last row of Table 3. One is that I couldn't understand why the effect under option 4 was twice as large as the effect under option 3. And, relatedly, I guess, what's the source of those estimates?

MR. SACK. Let me start with the second question. The source of the estimates is the same set of staff analysis that we've used in the past. I think the staff has argued that the full asset-purchase program of \$1.7 trillion would, perhaps, lower longer-term interest rates 50 to 80 basis points. If we scale that down to \$300 billion, which is the change discussed here, you'll get something on the order of 10 to 15 basis points, which is actually the lower end of this range.

As for the first question of why the effects are so much smaller under options 2 or 3, there's implicit in that an assumption that the Treasury will be willing to shift more issuance to shorter-term securities given our participation there. So, actually, the amount of duration that ends up being pushed into the market is greater under option 4 than under options 2 and 3.

MR. KOCHERLAKOTA. Oh. That's what I couldn't figure out, right.

MR. SACK. Now, just to be clear, the Treasury I think has some concern about rollover risk even regarding our holdings. It's much less concern than with the public, but not zero concern. So under any of these options, given that we're holding less duration, there will be more duration pushed out into the markets. At this time, Treasury is quite interested in extending its debt maturity for this particular reason. So I think all of these options produce some upward pressure on long rates, but it's more severe under option 4.

MR. KOCHERLAKOTA. Thank you.

CHAIRMAN BERNANKE. President Rosengren, a question?

MR. ROSENGREN. Yes, a technical question. It seemed that some of the options were based just on when things would be redeemed versus when an auction would occur so that you could put the funds back to work. Once something matures, is there any problem with just doing repos until a Treasury bill auction occurs? Is there something I don't understand about the mechanics that would make it difficult to have a bridge between the maturity of a longer-term security and rolling into a Treasury bill auction?

MR. SACK. The problem with that is that there's a legal interpretation that we can only acquire securities at an auction when we have securities maturing that day. We are required to obtain securities in the open market in general, but the interpretation has been that we can roll securities over when their maturity date matches the settlement date of a new issue. The problem with your outcome is that, as soon as we start to do repos, we've lost the option to jump back into the new auction in the primary market. We have explored other options—such as whether Treasury could issue a bridging security to us, and so on—but we've been able to come up with a solution that circumvents the problem.

MR. ROSENGREN. Thank you.

CHAIRMAN BERNANKE. President Plosser.

MR. PLOSSER. My question is related to that as well. I was looking at options 2 and 3 and trying to figure something out. From the memo, it looked as if the way you got the volume of bills that you held in 2 was driven exactly by the matching up of the auction dates, and that's how you got to the mix of bills and lower coupons in 2 versus 3, or in 2.

MR. SACK. That's exactly right. It may help to understand that there are three different settlement structures in play in the Treasury market. There are Treasury bills, which settle every Thursday; and then there are the coupons, which are either on a mid-month cycle or an end-of-month cycle. Given the restriction that we can roll securities over in the primary market only when the maturity of one security matches the issue date of the new security, we're left constrained in terms of how we can reallocate across coupons.

That's actually one advantage of option 2—by including Treasury bills, two-year notes, and three-year notes, we cover that full range of settlement days, because the two-year notes settle at the end of the month, and the three-year notes settle mid-month. So that's a solution that allows us to be present on every single Treasury issuance day, while still achieving a shortening of the portfolio.

MR. PLOSSER. So, under option 2, the \$68 billion of bills is likely to be the maximum amount of bills that you could purchase under that strategy?

MR. SACK. That's correct. And just to be clear to everyone, in option 3, to go to a bills-only portfolio would, therefore, require sizable secondary market purchases of bills. That could present communication difficulties, because with one hand, we'd be trying to pull reserves out of the system through term deposits and reverse repos, and with the other hand, we'd be making short-term investments.

MR. PLOSSER. Okay. Thank you.

CHAIRMAN BERNANKE. President Evans.

MR. EVANS. Thank you, Mr. Chairman. Brian, I think you implied that this will be a change in policy and it would be a surprise in financial markets. Could you discuss a little bit more how markets have formed expectations regarding how we will deal with our Treasury holdings and that they will be rolled over? I don't believe we've really discussed this explicitly in our FOMC statements. It's an element of our policy decisions, and the discussion seems a bit incomplete relative to our previous decisions. This is something that we're going to be grappling with for some time.

MR. SACK. Right. The past several sets of FOMC minutes have stated, I believe, that the Committee has discussed the reinvestment strategy and that the current reinvestment strategy will be continued, which suggests that it is a policy decision in play. Yet the financial markets still see it as very unlikely to change it in the short term. You can see from our dealer survey that over, say, a two-year horizon the chance of some type of Treasury redemptions actually moves up to about a third, but, in the short term, redemptions are seen as very unlikely. I think there hasn't been a broad enough discussion of the other options that we're entertaining—options 2 and 3, where we reinvest in the shorter coupons—for market participants to have caught on and be considering that as a possible outcome.

CHAIRMAN BERNANKE. Other questions for Brian? [No response] I think the most efficient thing is to have a go-round and to have some discussion of both the sales issue and the redemptions issue. I assume that, once we determine what we're doing on those two, the question about the MBS swaps will kind of fall out of that. We went through this at great length in the last meeting. To try to minimize the repetition, I happen to have with me, by coincidence,

the minutes, and I thought I could just remind you of what we agreed to when we voted on the minutes and what the public has heard from us.

First of all, there were four principles on which we had essentially uniform agreement. First, whatever strategy we adopt, we should be consistent with our objectives of maximum employment and price stability; in other words, we have to take into account the financial and economic conditions when we think about this. Second, we are looking to normalize the balance sheet, both its size and composition, over time. Third, doing number two would eventually entail sales of agency debt and MBS; in other words, we're in agreement that we're not going to go strictly through a redemptions strategy. And, fourth, any sales would be communicated in advance, conducted at a gradual pace, and potentially adjusted in response to changes in economic and financial conditions. So those are the four principles that I think we all agree on: macro objectives, normalize the balance sheet, sell at some point, but do it in a way that's gradual and well-communicated.

The next portion of the minutes talked about areas where there was diversity of views. I'll quote: "Most participants favored deferring asset sales for some time." So, at this point, the market does not expect a near-term sale. It doesn't mean we can't do it. We also communicated that a majority preferred beginning asset sales some time after the first increase in the FOMC's target for short-term interest rates. That was option 2, you recall, when we looked at the various issues. Again, it was a majority, not everyone. The rationale given was that such an approach would postpone any asset sales until the economic recovery was well established and would maintain short-term interest rates as the Committee's key monetary policy tool.

Given the four conditions on which we agree, I think the question at hand is whether we should reverse the communication we've already made, namely, that assets sales would be

deferred for some time and that asset sales would come after interest rate moves, and communicate a different strategy that would involve at least announcing very soon what our schedule of asset sales would be.

Let me make two additional points, if I could. First, while I think it is important to discuss issues of market functioning and so on, I think we all should recognize that the key issue here is the signal that we give in terms of policy: What is the market going to infer from the announcement that we make? In particular, when we talked about sales in the scenarios that the staff did in the last meeting, we talked about situations, for example, where sales would be combined with a more extended period of low interest rates rather than a less extended period. Can we do that communication? I think that's a very important issue.

The second and final comment I'd like to make is sort of a request. As we'll discuss later on, it seems to me, at least, that the economic and financial outlook is somewhat weaker today than it was in April. Therefore, if the Committee instructs me to undertake either a significant redemptions policy or a sales policy, I would ask you to allow me to use the Humphrey-Hawkins testimony to provide additional warning and preparation for such a change, given what we've communicated—if, in fact, that's what we decide to do. But, of course, again, that's your option.

With those background comments in the hope of trying to make this an efficient and effective discussion, why don't we begin a go-round? Before we do that, Matt reminds me that we need to vote to approve domestic open market operations. If there are no objections to doing that—[no response] I see no objection. Okay. Who would like to go first? President Plosser.

MR. PLOSSER. Thank you very much, Mr. Chairman. I'll try to be brief. Let me just cut to the chase about what I'm thinking about this. I think one of the things that we did learn

last time from the memos was that the process of sales in terms of its macroeconomic impact was going to be modest, particularly if the sales were gradual and at a measured pace.

Consistent with those four principles, one of the things that we haven't emphasized in our communication, though, is a pre-commitment to the mix of what the balance sheet looks like. We've done something, but we haven't committed to the observation that that mix is going to remain fixed over time. In fact, it obviously is changing some because of our redemption policies on MBS. When I look at these two proposals on the MBS swap, as President Lacker suggested, the MBS swap amounts to a sale of the 5.5s and a purchase of the 4.5s, in effect. So that is a sale and it is a purchase, in effect. I'm thinking, though, that maybe to help normalize our balance sheet in terms of the mix, selling the 5.5s and purchasing Treasuries would keep the balance sheet the same, but just says we're buying Treasuries instead of buying MBS to replace those.

That leads me to thinking about the Treasury redemption strategy, and I am comfortable with option 2. I think that's a sensible strategy and it's consistent with our goal to normalize our balance sheet and get the maturity structure down. My preference would be to have a little more shorter-term assets in the mix than what option 2 offers, but, given the constraints that we face for the foreseeable future, at least, maybe that's not feasible, and trying to match what's available in the marketplace would be best. Because we haven't made a commitment to the public or talked much about what the mix of the portfolio looks like, I think my preference is to forgo the opportunity to purchase extra MBS or purchase the 4.5s instead of the 5.5s, let the 5.5s go, take that resource and invest it in short-term Treasuries in line with option 2 of the staff's memo.

Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Rosengren.

MR. ROSENGREN. Thank you, Mr. Chairman. At the last meeting, a majority of us thought that sales should occur after tightening. I don't think we should be revisiting this at each meeting. I think we should come to a conclusion and stand by it. I think the reason that a majority of us thought that sales should go after a tightening is because sales are a tightening. They may be of a small magnitude, but the direction is clear—it's a tightening.

The reason mortgage rates have fallen is not because the economy is so strong, it's because the economy is weaker than it was before. What was striking in Brian's first memo was a 20 percent chance that somebody falls off the euro. Well, I think the reason mortgage rates are so low is that the possibility of a tail event has gone up substantially, and that wasn't the case at the previous meeting. So I think it would be particularly puzzling right now—in this environment, with the inflation rate forecast lower, the unemployment rate forecast higher, the market as a whole thinking that interest rates are lower because a bad outcome is more likely, and the stock market down—if we said we've decided to do a tightening. I find it quite inconsistent that we would do a tightening at this meeting, even if it is of a small magnitude. So I don't think that we should take back what we had agreed to and what we represented in the minutes at the last meeting.

On the Treasuries, my preference spills over a little into our forecast discussion in the next two parts of the meeting, but I don't think this is the time to make any changes at all. My preference would be to make no change in what we're doing for the Treasury portfolio. Over time, I can see some logic in shortening the maturity, but I don't think this is the time to do it. If anything, the probability of having to do more purchases has gone up rather than down. We're closer to a deflationary scenario, and we're closer to an environment in which we could have a really bad outcome, and we don't have many tools to deal with a really bad outcome. Interest

rates are already bound by zero, so our only option is sales or purchases of other assets. In that environment, this is a particularly good time not to do anything and see if we might actually have to do more purchases rather than more sales as time goes on. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Lacker.

MR. LACKER. Thank you very much, Mr. Chairman. The more I think about this, the harder it is for me to shake this idea that the size and the composition of our asset holdings are two distinct things that we can vary differently. I'm struck by the extent to which, at the last meeting, some earlier meetings, and the discussion now, asset sales are viewed as synonymous with reducing the size of our asset holdings. I read over the minutes of the last meeting. Everyone who spoke against asset sales was speaking against reducing the size of our asset holdings. No one opposing asset sales said anything about the composition of our balance sheet. The minutes accurately reflect that a majority were in that camp. I think it's misleading—and I wish I had brought this up when we had a chance to edit the minutes—to refer to that as asset sales. In fact, a majority favored not taking steps to reduce our asset holdings.

We all want to normalize our balance sheet and return to Treasuries-only—it's one of our principles. It looks to me as if we can have both. We have these four principles here. There's a Pareto improvement available to us, where we can normalize our balance sheet more rapidly without sacrificing anything on the other dimensions. So I'd advocate selling. We're talking about taking the proceeds of maturing Treasuries and buying assets with them. Not only is this the status quo, but we're buying new assets as we go along. I don't see why we can't embark on a program of selling mortgage-backed securities. And if the majority of the Committee believes we shouldn't reduce the size of our asset holdings until after the first interest rate increase, well, then, so be it—we'll put the proceeds into short-term Treasuries. As for the narrow question, I

favor option 2, because I don't want to reduce our Treasury holdings—we're only going to increase them later as we roll off MBS. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Hoenig.

MR. HOENIG. Thank you, Mr. Chairman. First of all, if we were to go in a particular direction, I would totally agree with giving you all the time you need to explain it in terms of the Humphrey-Hawkins. I certainly understand that, and it needs to be explained. The reason I raised the question is partly because we did say circumstances had changed, and I looked at it as an opportunity to reduce our balance sheet without necessarily disrupting the markets or our longer-run objectives, provided we give the right explanation. I still feel that we can do that. We're already experimenting with term auction facilities to bring excess reserves down. This is a favorable selling into a favorable market that would further allow us to reduce those holdings. It seemed like a reasonable thing to do, in my opinion.

In terms of what President Lacker was saying, if we have that opportunity and the goal is not to shrink the balance sheet, I would just as soon put shorter-term Treasuries on as other mortgage-backed securities. So that's where I am. On the narrow question, I suppose I could go with option 2 as well, so we would move towards Treasuries. Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Kohn.

MR. KOHN. Thank you, Mr. Chairman. I see, President Lacker, selling mortgage-backed securities and buying short-term Treasury securities as a tightening action—we would be putting more duration in the market and reducing the duration on our balance sheet. I agree that we want to go there at some point, and the question I think that's confronting us is at what point. Compared with you, perhaps, I put less emphasis on the total level of the balance sheet. I don't think all of those excess reserves are having much of an effect on economic activity, bank credit,

or anything else, and I put much more emphasis on the composition of the balance sheet. So I would be somewhat hesitant at this point to take what I would see as even a slight tightening action.

Let me go through the various options. On MBS sales, I'm where I was last time and where the majority of the Committee was last time. Selling MBS or even exchanging them for Treasury bills would be a tightening action. I would like to keep the Committee's attention and the public's attention on short-term interest rates as the most active and the least confusing instrument we have for affecting monetary policy. I think the communication challenges of doing what you suggested, or just selling MBS outright as President Hoenig suggested, without triggering an expectation that this was the first step in tightening would be very, very considerable.

If we do this and it does have even a small tightening effect, it does imply that short-term rates are lower for longer, so the "extended period" is extended. I'm not sure that the distortions of extending that carry trade issue—raising long-term rates and keeping short-term rates lower for longer—aren't greater than any distortions we're causing by having a bunch of MBS in our portfolio. So I would still favor waiting for the MBS sales.

On the redemptions, or the exchange of Treasuries in any size for Treasury bills, I, too, was drawn to some extent to option 2—reinvest in shorter maturities. I saw it as a way eventually of reducing a duration risk, giving Brian more options to absorb reserves when the time comes to do that, moving back towards a more traditional Treasury portfolio. But I think, as I indicated in my opening comments, even option 2 would be a slight tightening of policy. Whether these basis points are right, no one has any idea, right? But it is a move in that direction, and, like you, Mr. Chairman, and President Rosengren, I see the economic outlook as

having weakened just a little bit over the intermeeting period, and I don't think this is the appropriate time to take even a potentially slight tightening alternative. So I think at some point the Committee should look at option 2, but I wouldn't do it right now.

As for the swaps, \$9 billion isn't a big deal. I certainly agree with that. I guess what worries me about selling the \$9 billion or rolling it into Treasuries is that it's unusual, and we ought to be doing kind of what the markets do to facilitate this fails situation and not set ourselves communications challenges by doing something that's inconsistent with regular market practice. So I guess I have a slight preference for the swap alternative as opposed to some of these others. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Lockhart.

MR. LACKER. Mr. Chairman.

CHAIRMAN BERNANKE. Yes.

MR. LACKER. Can I respectfully pose a question to Governor Kohn?

CHAIRMAN BERNANKE. Certainly.

MR. KOHN. A long as it's respectful. [Laughter]

CHAIRMAN BERNANKE. Two hundred twenty-two FOMC meetings—it had better be respectful. Go ahead.

MR. LACKER. How would Governor Kohn feel about selling MBS and buying equivalent duration Treasuries?

MR. KOHN. Obviously, less concerned. I think if we had a good reason for doing that, and if it were well advertised ahead of time, and if I could be pretty sure it wouldn't upend the mortgage market, obviously I'd be a little bit less concerned.

I'm a little surprised, to tell the truth, about this discussion about buying Treasuries. For example, when we talked about buying Treasuries, President Fisher, you were really concerned about its implications for perceptions of our independence. I'm glad to hear you're less concerned now.

MR. LACKER. It's eroded on so many other fronts.

MR. FISHER. First of all, I wasn't the only member—Governor Warsh also had some interesting arguments on that. But I think it threatens our independence more to have skewed our holdings toward longer-term mortgage-backed securities. But we can talk about that when I get my chance in the round.

CHAIRMAN BERNANKE. Where are we? President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. I line up with President Rosengren and with the gist of what Governor Kohn said. First, I think we have two questions: a direction of policy question, and a timing question. I think there has been quite remarkable change since the last meeting—risk is higher, and uncertainty is a whole lot greater. So, from a timing point of view, I would do nothing at this meeting that risks misinterpretation.

I tend to look at these questions in a risk–reward sense. I do not see the great reward in acting at this meeting on any of the moving parts of the policy direction. I do see a risk not only of market misinterpretation, but, depending on the compounding effects of conditions that develop over the next few weeks, also of conceivably a policy error of some kind. Directionally, then, I line up pretty much with what Governor Kohn just said—to shorten the maturities using option 2 or, conceivably, option 3. I think that decision can be made at a later date. Because it is a relatively small sum and it, in effect, will be interpreted as preserving the status quo, I would favor the coupon swaps idea. I continue to favor sales after tightening. And finally, at least as

I'm thinking of it at this point, I see tightening as multi-modal. We've talked about the tightening effects of a number of different possible actions, but I see it as one decision that comes at a particular time, and I would not want to risk the possibility that something that we do not think is tightening is interpreted by the market as tightening.

CHAIRMAN BERNANKE. President Plosser.

MR. PLOSSER. Can I just ask one clarifying question of Brian? If we were to hold the 5.5s, given that they have large prepayment risks, what's the anticipated duration of those securities? In other words, if you replaced them with Treasuries of similar duration—this goes back to what President Lacker said—what would they be? Five years, seven years, four years?

MR. SACK. Oh, no. It would be much shorter. The duration of our agency MBS holdings broadly is between three and three and a half years, and presumably the duration of the 5.5s would be less than that on average.

MR. PLOSSER. Because of prepayment?

MR. SACK. Right. I don't have the exact reading for that coupon, but—

MR. PLOSSER. So if you replaced those with Treasuries, you'd be looking at Treasury durations of three to five years, presumably. Thank you.

MR. LACKER. Mr. Chairman, can I follow up on this?

CHAIRMAN BERNANKE. Okay.

MR. LACKER. Three to three and a half is the duration of our MBS holdings?

MR. SACK. Correct.

MR. LACKER. And the duration of our overall Treasury portfolio is five and a half years?

MR. SACK. Right. Treasuries are our longest-duration asset right now in aggregate.

MR. LACKER. So our MBS are less than average duration.

VICE CHAIRMAN DUDLEY. Well, it's because of the level of interest rates. It's very sensitive to the level of interest rates.

MR. ROSENGREN. That's because interest rates are so low that it means that the prepayment will be very rapid, and as a result, our balance sheet will shrink quite rapidly if interest rates stay this low.

MR. LACKER. So what's the duration of the public's portfolio? I'm trying to think, with respect to what Governor Kohn said—if we sold the MBS, that would increase the average duration of our portfolio, wouldn't it?

PARTICIPANT. It depends on what you buy.

MR. LACKER. Because it's below the Treasury duration, right?

MR. SACK. Right, but if we just sold MBS and didn't do anything else, it would be putting more dollar amounts of duration into the market.

CHAIRMAN BERNANKE. You are absolutely right. If you swap for long-duration Treasuries, you increase the duration. President Rosengren, you had a comment?

MR. ROSENGREN. But it would also presumably change the mortgage rate relative to the Treasury rate. So if the housing sector is one of the sectors that you think is particularly weak, it would be relatively unusual. Even though it's a change in duration, it's also a change in composition that does have potential compositional effects, particularly on a sector that may be weak otherwise.

CHAIRMAN BERNANKE. President Evans.

MR. EVANS. Thank you, Mr. Chairman. If it weren't for the communication issues about what it might signal for monetary policy, I'd tend to think that redeeming Treasuries alone

would have relatively small effects, and I'd tend to favor doing something like that to get our balance sheet down. But that's not the case—there are communication issues.

I think it would have been nice if, along the way, we had known that it was okay to make technical adjustments in the size of our balance sheet—in some of these components, in relatively small dollar amounts—over, say, a six-month period; we're obviously struggling with a whole number of these issues. You know, I'm the kind of person where, within certain bands, small adjustments don't bother me. The markets apparently are going after nickels and so on, so that a small change matters a lot to them. But we're going to struggle with this with the term deposit facilities, the \$9 billion of coupon swaps, and other things that are going to come along, and it's always going to have an effect of a couple of basis points. It would be nice if we could have somehow communicated that there's a range of noisy adjustments that are going to be natural for us to do.

However, it does have implications about what it means for tightening, and so I don't think there's much of a reward here. As President Lockhart mentioned, the risk is larger than I would like, and the dual mandate issues say to me that we need to maintain accommodation. So I tend to favor option 1—roll over the Treasuries and keep the monetary policy accommodation. I certainly would not object to reinvesting in shorter-maturity Treasuries. But I would go ahead and roll them over. Thank you.

CHAIRMAN BERNANKE. And on the asset sales, the MBS sales?

MR. EVANS. Yes, I wouldn't do that.

CHAIRMAN BERNANKE. Okay. Governor Warsh.

MR. WARSH. Thank you, Mr. Chairman. Three questions, I think, have been raised. One, on the coupon swaps, let me just underscore what Brian said, which is that this is very

ordinary, customary, boring, not very exciting or surprising news to people in markets—these things do happen all the time. So in that way I'm in total agreement with him and the New York folks. I would just point out that I don't think that this is a one-off problem. If only we had bought one class of securities instead of another, then things would be fine. This is symptomatic. This is indicative of a very messed up mortgage finance system and of extraordinary efforts by all sorts of government actors, including the Federal Reserve, to intervene in it. So, while we're clearing up this symptom, and I think that we should, I wouldn't be dismissive of this problem, and I'd suggest that we'll see different strings of it manifest themselves in different ways over the course of the next couple of years.

Second, on the redemption policy, I favor option 2 in substance. I think that gives to Brian, who has to deal with all of us, a little bit more flexibility than option 1 does, so I think that's necessary to ensure that we can functionally provide what he and the Desk need to provide. So option 2 is fine. In terms of the communication of option 2, I would add that to the burdens we are going to put on the Chairman for Humphrey-Hawkins. I think that if the Chairman can lay out at a high level what the music is, then Brian and the New York Desk can play out the lyrics as to the technical issue of what's going on and do that in a way which is not scary. I think all of us around this table, myself included, do tend to make a lot out of the communications challenges and what markets want and need, but these markets can be led, and they can be led ably to good places, so we ought not be intimidated by that prospect.

On the subject of asset sales, Mr. Chairman, I think I'm going to take your counsel and not re-litigate the discussion we had last time. I'll just make two points in light of more recent events coming out of Europe. First, I think Europe should remind us of the need to have optionality associated with all that we're going to do under a narrative that is playing out with

markets. The downside risks that are now obvious in Europe, which were feared and understood six weeks ago, should remind us of the multiple policy tools that we now have, and, speaking for myself, I think that we should keep plenty of flexibility about the deployment of those tools. Some of those are little water pistols, and some of those are nuclear weapons, and I wouldn't want to confuse them and say we've got this big closet and it's just filled with a bunch of guns. So my own view would be that, when we think about the size and composition of our balance sheet, we would be well served to keep that separate from, but certainly related to, our decision on policy rates. I think the minutes accurately reflected where we were last time. I think that optionality would be a good thing for us to get back to in future discussions, but we're probably not going to be able to accomplish that today.

The second new news, it strikes me, out of Europe that informs this decision is that the problems there, which are very significant, have had a far more material impact on risk-free rates—on the Treasury curve and on 30-year fixed-rate mortgages for folks that are buying a first house—than a trillion dollars of assets that this Committee has undertaken. I just want to put that which we're debating in the broader context: Europe should remind us that what we're contemplating is relatively small. I have great confidence that it can be properly communicated both in the forthcoming discussions the Chairman has in Humphrey-Hawkins and beyond.

Thank you.

CHAIRMAN BERNANKE. Thank you. President Pianalto.

MS. PIANALTO. Thank you, Mr. Chairman. On asset sales, I am where the majority of the Committee was at our last meeting, and I prefer to wait on asset sales until we start raising interest rates. I support giving the Desk the authority to conduct the coupon swaps to facilitate the settlement of our MBS purchases.

Regarding Treasury redemptions, given my outlook, which I'll talk about in the next go-round, I prefer option 1. I, too, would like to reduce the duration of our Treasury holdings as presented in option 2, but, given the communications risk that we've talked about and also Brian's comment that option 2 could put some modest upward pressure on long-term interest rate, I prefer to stay with option 1 at this meeting. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Who's next? President Yellen.

MS. YELLEN. Thank you, Mr. Chairman. I'd like to associate myself particularly with the comments of President Rosengren and Governor Kohn. I agree with everything they've said. To me, a key issue is that the macroeconomic outlook is weak, and, since our last meeting, I think it has deteriorated. So I think macroeconomic considerations continue to call for accommodative policy and, ideally, even more accommodative policy than we have now. I wouldn't do anything now that could be interpreted in any way as a tightening of policy or undertake anything that could, because of the communications difficulties associated with it, lead markets to believe that we are likely to tighten policy any sooner than they now think.

On asset sales, I feel we've had an excellent discussion. I think every possible issue has surfaced. I was certainly in the majority at the last meeting. My views on this haven't changed at all. I think it is a sound decision to sell assets, but to do so only after we've made a decision to tighten monetary policy, and to start that off with an increase in our target for a short-term interest rate.

On issues like President Lacker's suggestion—selling off MBS and replacing them with Treasuries within a constant size balance sheet—I certainly agree that eventually we want to get back to a portfolio that's Treasury-only. That's a principle I don't have any trouble endorsing. But I don't see a compelling reason to get out of MBS and to get into Treasuries at a very rapid

rate that would necessitate the kind of strategy that President Lacker has proposed. I don't see any enormous distortion that the composition of our portfolio is causing at this point that makes me see a compelling reason for doing this quickly.

On Treasuries, I would see anything other than option 1 today as some tightening in policy, and certainly there are communications challenges associated especially with option 4, but also even with option 2. I do, like others, see a good reason to proceed eventually to shorten the maturity of our portfolio, to reduce interest rate risk. So option 2 is attractive, but I wouldn't move on that today.

With respect to the coupon swap issue, I would proceed precisely as Brian proposed and replace the 5.5s with 4.5s.

CHAIRMAN BERNANKE. President Kocherlakota, would you like to comment?

MR. KOCHERLAKOTA. Sure. Thank you, Mr. Chairman. I'll talk about the three issues that are on the table. I'll talk first about the coupon swap issue. On that, I think President Lacker phrased it exactly right. We would be talking about whether or not we should be selling. The transaction is twofold—we're selling and then buying. I think we basically committed to a particular amount of MBS that we wanted to buy, and we should just stick to that. I think Brian has outlined a way to get around what I see as a largely technical problem, so I'm happy to go along with that. I think doing otherwise, as some have suggested, is essentially to undo the commitment we made to get to the level that we were talking about. If the amount of money involved were \$100 billion as opposed to \$9 billion, suddenly it wouldn't be viewed as largely technical.

Let me move to President Hoenig's memo, which I thought was excellent. In general, I'm in favor of trying to put a cap on the amount of reserves that are out there, that is, the size of

the monetary base. I think this cap on the size of the monetary base coming out of the reserve requirement puts a cap on the size of M1. That cap is a backstop that keeps the price level in check, even if we, for some reason, fail to use our interest rate tools in a sufficiently aggressive fashion. Maintaining a large monetary base essentially means that we've discarded this backstop against the consequences of our own mistakes; I think experiences, for example, the Gulf of Mexico, show the value of having good backstops, ones that actually work.

We've talked about asset sales at great length, as President Yellen said. I'll just say one argument that occurred to me recently that I had not thought of before, which is about communication. I think it's going to be a lot more difficult to separate the communication about interest rates and balance sheets when we're actually starting to move interest rates. Right now, we've got this commitment on the table—this “extended period” language—and I think it quite rightly, I will add, given the economic conditions, says to markets that we're at zero for a long time to come. In those circumstances, it's much easier to say, “Okay, we're going to start to reduce our balance sheet, but that's not going to be spilling over into our management of short-term interest rates.” That's the main thing you have to worry about here—that spillover. These 5 to 10 basis point estimates—yes, it's tightening. The term deposit facility test itself offered people 27 basis points as opposed to 25—that was 2 basis points of tightening. Everything we do to take out reserves in some sense will have some amount of tightening.

I don't think it's this 5 to 10 basis points we're talking about. It's the spillover into short-term interest rates that we're worrying about. I think it will be much easier to control that communication now, when we've got this strong commitment on the table. So I'd be very comfortable with the gradual five-year program that President Hoenig suggested starting in mid-2011. We've moved expectations about when we were going to start sales tremendously. If you

look at the June dealer survey that the New York Fed did, now I think about 50 percent the respondents think we're going to sell within the next two years. That's a big change relative to where we were in January of this year. So I think moving to starting to sell by mid-2011 would have very little impact on long-term interest rates.

Finally, consistent with my vision that we should have a smaller balance sheet, I like the idea of holding only Treasuries in the long run, but I want to get our balance sheet down fast. Zero reinvestment, full redemption policy is consistent with that. I think communication is critical to this. This is a Committee that has done wonders over the last two and a half years with communication. I don't view this as being a huge obstacle for us to overcome. I'll sketch some language tomorrow about how I'd like to proceed on that. I think we could use the minutes now, Humphrey-Hawkins testimony along the way, and make a formal statement in the statement about going to zero reinvestment in August. I think I've touched on all three issues. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Fisher, would you like to comment?

MR. FISHER. May I first ask two questions? The first is: Are we indemnified from losses on MBS?

CHAIRMAN BERNANKE. Indemnified?

MR. FISHER. Yes.

CHAIRMAN BERNANKE. No.

MR. FISHER. Not by the Treasury. Second: When is the Humphrey-Hawkins testimony?

CHAIRMAN BERNANKE. The third week in July.

MR. FISHER. Mr. Chairman, you went back to the last meeting and the four principles agreed upon, which reminded me that I had forgotten my manners. I just wanted to thank everybody for the support they've given me during a very difficult period.

Setting aside sentiments—and central bankers are not supposed to have any feelings whatsoever and are supposed to be objective—the one thing about taking a month off is this: When you read these materials and think about the things that we have discussed and look at them with fairly fresh eyes, at least to me—and Narayana touched on this—the issue of whether we wait to tighten before we sell assets is interesting. I can envision circumstances where we might tighten, and the impact would be such that, at the longer end of the yield curve—at least in the middle section of the yield curve—we might shift from gains to losses on our holdings. We're not indemnified against those losses, and I could see where the political costs—I know we're not supposed to think about politics just like we're not supposed to be emotional—could be great, and we could be criticized for having pursued a bad strategy ex post. I would note that we pursued this strategy deliberately, and Governor Kohn and I supported the purchase of mortgage-backed securities for a specific purpose, and I think we have achieved our goal.

As you, Mr. Chairman, and President Yellen and others have correctly pointed out, the macroeconomic situation has deteriorated, but it hasn't disintegrated. It's not as bad as it was, and the financial conditions now are much better than they were when we implemented this program. So I think we need to take that into account.

The reality is that there is a demand for this product in the marketplace. What people are being offered for cash is negligible. I would be willing to submit that we could sell a decent portion of our mortgage-backed securities to hungry buyers. However, I would agree that this is not the time now to reduce our balance sheet size, and in fact, if you do worry about some of the

tail risks of a weaker economy because of the trip wire of Europe or whatever it may be, I'd like to have a little dry powder in my pocket. I think we could achieve this by taking advantage of market conditions. I'm not going to go as far as Governor Warsh—actually rooting for further weakness in Europe and disintegration of Europe—but we are the beneficiary of the misfortune of others. Whatever the reason, it gives us an opportunity at least to consider the subject of whether or not we can sell some of this portfolio, which we all agree is disproportionate to our long-term goals; that is, we could take advantage of that and at least test the possibility. I would be in favor of reinvesting it in Treasuries. I think President Lacker raised a good point, which is that we might even, if we wanted to—and I'm not sure that's the objective of the exercise—extend the duration of the portfolio by doing so.

So I'm uncomfortable with taking it off the table, Mr. Chairman. I think it is a question of communication. I don't think it necessarily leads to tightening, Governor Kohn. I'm not necessarily in favor of tightening right now, but I am concerned that this is a tool that we used. It worked. It may no longer be entirely appropriate to carry this in our portfolio, if we can shed it without taking losses and without necessarily impacting the current duration of the portfolio or even shrinking our balance sheet.

That would be my perspective on this issue. It sounds like there are many people at the table who disagree, but whatever we decide, I would be in favor of your doing this through the Humphrey-Hawkins testimony, because, I hope, by then, we will have gotten through all of the deregulation and re-regulation and all of that political argument that's taking place on the Hill and get back to discussing monetary policy.

As to the options laid out by Brian, my favorite, although I don't view it as optimal, would be option 2. It reduces the duration. It keeps the balance sheet roughly the same size for now. It gives us a bigger chunk of securities with maturities a year or less to work with.

But I'm a little concerned, Mr. Chairman, that we're just ruling out taking an opportunity here when the market is very strong, and I think we can do it in a way that isn't disruptive. The question is: How do you communicate it? That's a tough one. I think we can come up with answers. We can talk about that later. I think you could communicate in Humphrey-Hawkins, and we can do so without damaging our obligation to live up to the dual mandate that we are governed by. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Bullard, would you like to comment?

MR. BULLARD. Thank you, Mr. Chairman. On the Treasury redemption and reinvestment policy, I just wanted to say I found the memo on this topic from Brian Madigan and Brian Sack very helpful. So thanks a lot to you and to everyone who worked on that.

I prefer the status quo policy for today, which is to continue to reinvest according to long-standing practice without any additional attempt to shorten the maturity structure. Mainly I agree with many others here that we probably should not try to send a signal on monetary policy today. We could move to that policy later. I don't think it would have a big effect at the time that we decide to do that.

On the full redemption policy, while I have some sympathy for that, I think that would move the Committee away from the desired ultimate asset composition, which is Treasuries-only. I think that would send a confusing signal and might be confusing to us as well about what we're trying to do here. We can achieve much more by simply selling agency MBS at the appropriate pace and at the appropriate time so as to reassure markets that the FOMC remains

committed to achieving low and stable inflation outcomes. I think there's some good news, namely, that the MBS are actually in demand—that's encouraging. I'm also fine with the swaps for the 5.5 fails. The main concern I'd have there is whether we're doing anything unusual or anything that would look like a favor to those that have failed to deliver. As I understand it, I don't think that we're doing that—we're using normal market procedures here. But I would be concerned about anything that would smack of somehow letting people out of a contract or something. But I don't get the sense that that's what we're doing here.

On asset sales, I still advocate the LIFO policy—last in, first out—which would put asset sales before the first increase in short-term interest rates. I think it makes sense to take back the quantitative easing at the appropriate time—not today, but at the appropriate time—without tying it to short-term interest rate increases. I actually am quite concerned about the policy that seems to be gelling around the table here—raising short-term interest rates and simultaneously signaling the end of the quantitative easing policy—because that is an “everything at once” policy, and we're not taking advantage of the fact that we have two instruments. One could interpret the policy of raising rates, or even hinting that we're going to raise rates by changing the language, as simultaneously signaling two things: that we're going to raise rates and that, within some short period of time, we'll start to end the quantitative easing policy. That might be more tightening than is desired at that moment.

I think the better way to play this is to say that we would take back the quantitative easing, which is the last thing we did, without necessarily signaling anything about what we're going to do with interest rates; we even could extend the “extended period” language and say we might wait on interest rate policy, and we'll get the balance sheet back to a more normal size and a more normal composition in a reasonable amount of time.

I am very concerned about this “everything at once” policy, and I think I’ll remain an advocate for the LIFO policy for now. Thank you.

CHAIRMAN BERNANKE. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Mr. Chairman. I’m where many others have already expressed themselves. I would not want to do anything that would be or could be construed as a monetary policy tightening in light of the fact that the economic outlook has deteriorated since the last meeting. Financial conditions have tightened, and tail risks have increased. I thought it was interesting that, in the submissions of the participants’ forecasts, there’s a big shift in the Committee’s view about risks lying to the downside now in terms of their growth outlook.

With that in mind, while I don’t like the composition of our Treasury portfolio—I would prefer it to be shorter-dated—I don’t think this is the time to make any changes. At some point I might favor option 2, but not today.

In terms of asset sales, I’m very much where I was at the last meeting, and that was with the majority. I thought the majority of the Committee had come out pretty clearly that first it’s language, then it’s interest on excess reserves, and then it’s asset sales. I would, if anything, want to reinforce that, if we could, because there’s too much confusion in the marketplace about whether the Committee has decided this or not.

Regarding the swap, I think what Brian has proposed is very straightforward, completely technical, standard operating procedure, and involves the least drama. So I very much favor doing the swap.

CHAIRMAN BERNANKE. Thank you. Governor Duke.

MS. DUKE. Thank you, Mr. Chairman. First of all, I think we run the risk of getting a little too cute in what we're trying to do. It's my belief that, in execution, consistency is a strength. Given the communication challenges that we face, I think consistency is even more important for us than would normally be the case.

Starting with asset sales, I think we should have a reason to revisit the conversation we had last time rather than having this constant tug of war with one side or the other making marginal progress at any given meeting.

With that said, in terms of the swap, I think our policy decision was to purchase MBS. It wasn't to purchase specific coupons, and risking a communication problem for \$9 billion just doesn't make any sense to me.

On the Treasury redemptions, I strongly favor option 2, with the caveat that there be enough time for it to be well communicated. We have said that we want to return to a more normal portfolio composition, and I think that should also apply to the maturity structure and the duration within the Treasury portfolio. Option 1 basically never exits from the \$300 billion Treasury LSAP—it mainly exits from our old position. Option 3 presented challenges of execution in the secondary market. So I particularly like option 2. I view option 2 as sort of the equivalent of gradually letting MBS roll off, in that it's a gradual and incremental type of strategy. It would give us future flexibility at a time when we might really need it, and it would reduce the political risk of large, unrealized, or potentially realized losses as rates increase. I don't think this is a sudden decision. We've had the discussion of what to do about Treasuries at least three times, by my count, and we've been talking about it just as long as we've been talking about the exit. I think if we wait for the perfect time to address the duration in the portfolio, then the actions that are required to do so might be even more disruptive to markets. Option 2 seems

to me the easiest strategy to communicate, and while markets might not be expecting it now, it would be easy to change that expectation. As Brian points out, one reason that markets might not expect options 2 or 3 is that they just haven't thought about it, so if we gave them a chance to think about it, it might make sense.

Finally, to the independence question, it seems to me that option 1 totally relinquishes our independence, because we're buying whatever Treasury wants to sell. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. What about the asset sales, the MBS sales?

MS. DUKE. No—I think we ought to stay with what we did last time.

CHAIRMAN BERNANKE. Okay. Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. I was looking for one of what is now a fleeting number of opportunities just to agree with everything that Don says. The problem is that, he said so many wise things, I can't remember them all, so I'm going to have to go one by one, but I think I agree with virtually everything that he said.

I would just add one thought. Classic risk–reward calculus suggests to me that now is not the time to be taking any action on asset sales or anything that looks unusual to the markets at all. I am mindful of what Kevin said and agree with him that we should be prepared as a Committee and through the voice of the Chairman to lead market expectations rather than just feel as though we're slaves to those expectations, but I guess I would say, Kevin, that I don't think this is one of those moments for two reasons. First, with the deterioration of real economic conditions and the big potential problems in Europe, it seems to me that markets are likely to regard as particularly curious and perplexing any indication of a shift in policy by the Committee right now. Second, the Chairman doesn't testify until the third week in July. We're just barely into the fourth week

of June right now, and a lot can change between now and then. So I would be inclined, as Dennis said, to stand pat across the board.

With respect to asset sales, what Jim and Kevin have said is something that we may want to think about at some point in the future, although my default position is still the majority one that the Chairman read.

With respect to the Treasuries, I'm with a substantial majority of the Committee, in that option 2 strikes me as the right one eventually. But, for the reasons I just stated, now is not the moment. I guess this next point is almost anticlimactic, but in light of all of that, I obviously endorse the proposal that Brian made on the swaps. Thank you.

CHAIRMAN BERNANKE. Thank you. I think everyone has spoken. I recognize that we have not been completely efficient in our discussions, but I found this very useful, and I think positions are at least gelling. [Laughter]

MR. TARULLO. The refrigerator's not cold but it's gelling.

CHAIRMAN BERNANKE. Let me try to make a couple of points, which I took from this discussion, and then we'll be able to enjoy a cup of coffee.

First of all, Brian, I think that most people think that the coupon swaps idea is worth doing, and we'll put that into the directive tomorrow.

On the Treasury redemptions—it was a very interesting discussion. We'll discuss these issues further in the policy go-round tomorrow. I think that many people were motivated today by concerns about not rocking the boat or conveying any change in policy at this juncture and, therefore, the preference was clearly for no change, for option 1, for this meeting. However, there was a lot of interesting discussion not so much about the size of the balance sheet, but about the composition of the balance sheet; in particular, the change that got the most attention

was shortening the Treasury maturities, option 2. I heard quite a bit of interest in the possibility that, if conditions warrant, if the outlook strengthens, we might prepare the ground for a shortening of maturities in that way—I thought there was considerable interest in that. We may try to clarify a bit tomorrow exactly what conditions would warrant it, but I think it's entirely possible that something about the composition of the balance sheet could be in my testimony, for example.

The other issue of composition involves MBS versus Treasuries, and President Lacker was, I guess, the strongest advocate. I think that's certainly worth considering. Not too many people picked it up at this juncture, but it certainly is true that, if communicated adequately, we could change the composition of our balance sheet without changing the overall thrust of the duration, at least. As President Rosengren pointed out, there would be some implications for mortgage markets versus other markets, but I think that that is an interesting alternative.

I didn't hear much support at this juncture for reducing the size of the balance sheet at this time. I think it should be noted, and the minutes should continue to note, that the absolute majority of people who spoke still prefer the notion of sales after increased interest rates. But what I took from that is that we shouldn't be selling until we believe that we are close to the point where policy needs to be tightened, that is, where macroeconomic and financial conditions are such that tightening looks to be in the offing. I could imagine, for example that, at a point at which tightening is beginning to look necessary, we might start with an announcement that in six months we will begin sales, and then be able to observe that effect, and then make an announcement on interest rates subsequently. Then, temporally, the interest rate would still be in front of the sales, but the announcement might come first. So I think there are variants that we could talk about, but, for the time being, I did hear very little interest in immediate sales, and, in

particular, I heard a preference for holding sales as a part of the tightening process once we are convinced that financial and economic conditions warrant it.

Are there any comments? [No response] Well, again, I thank you for a very frank and very useful discussion. Why don't we take 20 minutes for coffee? We'll come back for the chart show.

[Coffee break]

CHAIRMAN BERNANKE. Okay. Why don't we reconvene? Item 2. We'll have the presentation on the economic and financial situation by Bill Wascher, Chris Erceg, and Nellie Liang. Bill.

MR. WASCHER.³ Thank you, Mr. Chairman. My colleagues and I will be referring to the exhibits in the packet labeled "Material for Staff Presentation on the Economic Outlook."

Turning to the first exhibit, recent data on spending and production have been broadly in line with our expectation for a moderate recovery in economic activity. Starting with the labor market, private payroll employment (the black line in the upper left panel) has continued to rise in recent months. Although the increase in May was smaller than we were expecting, that followed larger-than-expected increases in April and March, and the level of payrolls in May turned out to be close to what we were projecting in April. Moreover, employers have continued to lengthen workweeks, and aggregate employee hours (the purple line) moved up at an annual rate of 5 percent over the past three months. On a less positive note, the unemployment rate came in above our expectations in both April and May, and initial UI claims remain elevated.

The industrial sector has been a notable source of strength. Manufacturing IP—shown in the upper right panel—rose 0.9 percent in May, bringing the latest three-month change to an annual rate of 12½ percent. The recent gains have been widespread across industries, with the three-month diffusion index of production changes currently at its highest level since 1987.

The middle left panel presents our latest estimates of real PCE based on the available data on retail sales and light motor vehicle sales in May. As we were anticipating, increases in consumer spending appear to have moderated from their robust first-quarter pace. However, the level of spending in April and May was still a little above what we were expecting, and, on a quarterly average basis, we now

³ The materials used by Messrs. Wascher and Erceg and Ms. Liang are appended to this transcript (appendix 3).

expect real PCE to rise at an annual rate of 2.9 percent this quarter, about $\frac{3}{4}$ percentage point more than our forecast in April.

As shown to the right, home sales have also risen noticeably in recent months. However, we think that this upturn largely reflects another pull-forward of sales in advance of the expiration of the homebuyers' tax credit rather than an improvement in the underlying pace of housing activity. Indeed, single-family starts (not shown) were revised down noticeably in April and fell further in May, leaving their level well below what we had been expecting. In addition, today's report on existing home sales in May was somewhat weaker than we were expecting. Accordingly, we have scaled back our near-term forecast for starts and sales in coming months.

In the business sector, orders and shipments of nondefense capital goods (shown in the lower left panel) have continued to trend up in recent months. And, with the level of orders above shipments, we anticipate further near-term gains in spending. In addition, while activity in the nonresidential construction sector (not shown) remains very weak, there are hints in the recent data that the steep declines in this sector may be abating.

All told, as shown in the lower right, we now estimate that real GDP rose at an annual rate of 3.1 percent in the first quarter, and we are looking for an increase of 3.6 percent in the second quarter. Both figures are a shade higher than in the April projection.

Your next exhibit focuses on the medium-term outlook. The available data on spending and production largely pertain to April and May and, thus, are probably mostly unaffected by the recent turmoil in Europe. In contrast, recent events have had a noticeable influence on financial markets, with significant consequences for the medium-term projection. As indicated in the upper left panel, the most important of these changes were the sizable decline in the stock market and the marked appreciation of the dollar since the time of the April Greenbook; in addition, we revised down our outlook for foreign growth. Lower oil prices and mortgage rates provide only a partial offset to these negative influences.

As shown to the right, we accordingly marked down our forecast for real GDP growth to an annual rate of 3 percent in the second half of this year and to $3\frac{3}{4}$ percent in 2011, about $\frac{3}{4}$ percentage point lower in both periods than in our April projection. Part of the revision is in net exports, line 6, but most is accounted for by a downward revision to domestic final sales.

The bottom four panels provide some additional detail on the outlook for private domestic final demand. Scanning through the panels, you can see that our projections for each of the major components have been revised down. However, the basic story of the projection is similar to that in recent projections. The accommodative stance of monetary policy, improving financial conditions, and rising household and business confidence contribute to a further strengthening in consumer spending and business

investment in equipment and software (the middle two panels). Activity in the housing sector, the lower left, is also expected to turn up, albeit only modestly. In contrast, as indicated in the lower right, we do not expect to see a meaningful recovery in nonresidential construction for some time.

Turning to exhibit 3, gains in private payroll employment (the black dotted line in top left panel) are expected to average about 200,000 per month over the second half of this year and 275,000 per month in 2011. This puts our employment projection between the jobless recoveries that followed the past two recessions (the bottom two lines) and the more robust expansions following the 1974 and 1982 recessions (the upper two lines). The deviation of our forecast from those more robust expansions is explained both by the more modest pace of recovery in our projection and by the slower assumed pace of trend labor force growth. As shown to the right, the relatively tepid growth of labor demand leaves the unemployment rate above 8½ percent at the end of 2011, about ½ percentage point higher than in the April projection.

As shown in the middle left panel, inflation continues to be subdued. As seen in the inset box, core PCE prices rose only 0.1 percent in April, and, based on the latest CPI and PPI readings, we expect another 0.1 percent increase in May; meanwhile, total PCE prices are expected to edge down in May. Looking ahead, the greater slack in this projection, coupled with lower core nonfuel import prices (the middle right panel) and lower energy prices, add to the downward pressure on inflation relative to the April forecast. However, with longer-run inflation expectations (the lower left panel) apparently holding steady, we made only a small downward adjustment to core inflation (line 5 in the lower right panel) to about ¾ percent both this year and next; total PCE prices, line 1, are projected to rise at a pace close to core in both years.

Returning to the top right panel, we continue to assume that the availability of extended and emergency UI benefits has pushed the short-term “effective” NAIRU (the red line) above 6 percent this year and that this influence will fade as these UI programs expire. Our assumed longer-run NAIRU remains at 5¼ percent. This assumption reflects our assessment that the rise in structural unemployment associated with the recession has been modest. Your next two exhibits provide an update of some of the labor market indicators we’ve relied on in making this judgment.

Turning to the next exhibit, as we have noted previously, one potential source of higher structural unemployment is the need to reallocate labor across sectors of the economy. Because it typically takes longer for workers to become reemployed if they have to change industries, occupations, or location, an unusual amount of labor reallocation may raise structural unemployment for a time.

The panel in the upper left presents a measure of the extent of reallocation across industries. This figure presents a decomposition of the variance in the percent changes in employment into two pieces: the part associated with typical cyclical

dynamics (the black line) and the part associated with unusual—or excess—dispersion (the red line). The small degree of excess dispersion at present suggests that the amount of reallocation in employment across industries that needs to take place is not especially large, given the depth of the recession. A similar exercise for employment changes across states (the upper right panel) comes to much the same conclusion. These results are not suggestive of long-lasting increases in structural unemployment.

However, these measures may be too crude to capture fully all of the reallocation in the labor market that may be in train. An alternative way to assess reallocation is to focus on permanent job loss, because it may be associated with substantial costs in terms of relocation and lost human capital that could slow the pace at which workers find new jobs. In this regard, the middle left panel indicates that, while the rate of permanent job loss (the red line) was only briefly at an unusually high level and has fallen considerably this year, the stock of permanent job losers (the black line) remains very high. This suggests that many permanent job losers are experiencing difficulties in finding a new job, raising the possibility of an increase in structural unemployment.

In the past, one mechanism that has been important in helping the labor market re-equilibrate is the migration of workers from locations with weak labor markets to locations with stronger ones. In this regard, there have been claims that migration is being impeded by the substantial number of homeowners with underwater mortgages, and, indeed, migration rates have fallen noticeably in recent years. Whether this is due to house-lock is debatable; for example, as shown in the middle right panel, migration does not appear to have fallen more in states where the proportion of homeowners with negative equity is relatively high (the black line) than in other states (the green line). Regardless of its source, the decline in migration raises the possibility that the equilibration of labor markets across locations will occur more slowly than in the past.

Another relationship we use to assess the extent of structural unemployment in the economy is the one between the unemployment rate and job vacancies shown in the lower left panel and often referred to as the Beveridge curve. All else equal, the unemployment rate (the horizontal axis) and job vacancies (the vertical axis) should move inversely over the course of the business cycle. Thus, movements along a curve running from the upper left of the panel toward the lower right can be interpreted as cyclical movements in labor demand. In contrast, shifts in the Beveridge curve—increases or decreases in unemployment for a given level of vacancies—can be interpreted as changes in structural and frictional unemployment. The latest observations are given by the red square and the green circle in the lower right corner of the panel. It seems clear at this point that the curve has shifted out.

The Beveridge curve can shift out for several reasons, not all of which are indicative of higher structural unemployment. For example, we think that one factor that has contributed to the outward shift has been the availability of extended and

emergency UI benefits. However, staff analysis that decomposes the shift in the Beveridge curve into its various components also points to some increase in structural unemployment. This is illustrated in the chart to the right. The black line shows the percentage of the unemployed who find a job in the next month, that is, move from unemployment (U) to employment (E). The red line plots an estimated value from a regression of the rate of unemployment to employment flows on the ratio of vacancies to unemployment. An actual value that is close to the estimated value suggests that the job-matching process is operating normally. Recently, however, the actual job-finding rate has fallen below the red line, suggesting that some of the outward shift in the Beveridge curve may be due to a deterioration in the efficiency of job-matching, consistent with a modest increase in the level of structural unemployment.

In all, we view the various indicators in this exhibit as broadly consistent with our assumption that higher structural unemployment has boosted the NAIRU by about $\frac{1}{2}$ percentage point since late 2008. However, we recognize that this is very inexact science, and one important risk to our NAIRU assumption is illustrated in the next exhibit. As shown in the upper left panel, the extent of long-term unemployment—expressed here as a percent of the labor force—has risen to extraordinary levels. While, to date, this increase seems well explained by the factors shown in the box to the right—high rates of permanent job loss, continued weak labor demand, and extended and emergency unemployment insurance benefits—a key question going forward is whether this high level of long-term unemployment will lead to a further increase in the NAIRU through hysteresis-type effects.

As shown in the middle left panel, hysteresis in unemployment seems to have been more a feature of the European economic landscape than of ours in the past few decades. In particular, the recessions in the 1970s and 1980s appear to have contributed to persistently higher levels of European unemployment subsequent to those recessions. In contrast, in the United States, the unemployment rate has tended to fall back to previous levels within a few years following recessions. Econometric research on this issue, summarized in the box to the right, suggests that this difference in unemployment dynamics reflects a differential effect of recessions on structural unemployment in the two regions. For example, unemployment shocks have not led to persistently high levels of long-term unemployment in the U.S. in the past, whereas they have in European countries. In addition, and in contrast to some evidence for Europe, the long-term unemployed appear to put downward pressure on wage and price inflation in the U.S., an indication that long-term unemployment has not contributed to a higher NAIRU in the U.S. in the past. These differences between the U.S. and European experiences are often attributed to differences in labor market policies and institutions in the two regions.

Although the U.S. historical experience gives us some reason to be optimistic, the unusually high level of long-term unemployment that we are now seeing suggests caution in extrapolating these results to the current situation. The lower left panel provides one reason to be concerned. Job-finding rates tend to fall as the duration of

unemployment spells lengthen, so that only a little more than 10 percent of individuals unemployed for more than 26 weeks find a job in the following month. Research suggests that much of this pattern reflects worker heterogeneity—the long-term unemployed tend to be those with lower job-finding rates more generally. However, we should not rule out the possibility that the factors shown to the right will come more into play this time around, leading to a higher rate of structural unemployment in the future, especially in light of the slow pace of improvement in the labor market that we are projecting. At present, we do not see enough evidence to warrant putting a further rise in the NAIRU into our baseline projection. However, we do see that possibility as a risk and so will continue to reassess our assumptions about structural unemployment and the NAIRU as the economy evolves. Chris will now continue our presentation.

MR. ERCEG. As evidenced by the turbulence in sovereign bond spreads shown in the upper panel of exhibit 6, financial stresses in Europe have intensified, on net, since April. Faced with a deepening crisis, the European Union announced a European financial rescue plan on May 10, with details summarized in the middle left panel. In addition to €110 billion previously committed to Greece, the package includes €60 billion in lending from the European Union, a special purpose vehicle, which could issue up to €440 billion in debt guaranteed by euro area countries, and bilateral programs with the IMF. The ECB simultaneously announced and began implementing a program to purchase European sovereign debt and modified its short-term refinancing operations to provide markets access to additional term funding. Along with several other foreign central banks, the ECB also reinstated dollar swap arrangements with the Federal Reserve.

As shown to the right, many European countries have announced aggressive fiscal consolidation plans. The fiscal consolidation measures planned by periphery countries are drastic in both magnitude and speed. Moreover, they are expected to be implemented against the backdrop of very weak economic conditions. As shown in the lower left panel, we estimate that these measures will enable Spain and Italy to turn the corner in stabilizing their debt-to-GDP ratios. Greece and Portugal, however, face greater challenges.

Broadly, we think that the European financial rescue plan and strenuous efforts at fiscal consolidation will eventually succeed in restoring financial market confidence. Spain and Italy should be able to differentiate themselves progressively from other countries whose prospects are more uncertain, such as Greece and Portugal, and the possibility of a systemic European crisis will wane. Financial market conditions are likely to remain unsettled through early next year, weighing on the global outlook, but thereafter we expect some easing of financial stresses.

The table in your next exhibit presents the details of our outlook for the euro area. We project that euro-area GDP will rise only 1 percent in the second half of this year and 1.2 percent next year. This forecast is about 1½ percentage points weaker through 2011 than we projected last winter at the time of the January chart show. As shown in the upper right, domestic demand (the blue solid bars) is expected to barely

expand the remainder of this year and next, in contrast to our projection in January (shown by the blue striped bars), before the Greek crisis intensified. Budget cutting will restrain growth next year for all major countries in the euro area, and private demand—which has shown little improvement in the past year, as suggested by the retail sales data in the middle left panel—is likely to be restrained by weak confidence and tight credit conditions. We now expect net exports, the red bars in the upper right panel, to account for most of the euro area’s growth through the end of next year, spurred by a 15 percent depreciation of the trade-weighted euro, the middle center panel. Given the weak outlook for overall economic growth, monetary conditions, the middle right panel, are likely to stay highly accommodative, and inflation, the bottom left, to remain subdued.

Returning to the table, we see “core” European countries, especially Germany, line 2, as likely to outperform the periphery substantially. German industrial production, the black line in the lower center panel, expanded solidly in the first few months of this year, and the unemployment rate, the lower right, has declined. Going forward, we expect that Germany will benefit relatively more from euro depreciation, given the importance of manufacturing in its economy, and will be less impacted by financial fallout than most other European countries. In contrast, real GDP in Spain, line 5 in the table, is likely to remain nearly flat, which will keep unemployment near 20 percent.

Turning to your next exhibit, we project that total foreign growth will average about 3¼ percent through the end of next year. Recent data have generally surprised us on the upside, especially for emerging Asia. But in light of the European situation, we have marked down our aggregate growth forecast by ½ percentage point through the end of next year relative to your last meeting. Indicators for Canada, including buoyant retail sales (the middle left panel) support our outlook for continued domestic demand-led growth in that country, though growth is expected to slow as monetary policy (the middle center panel) is tightened and as European problems weigh on confidence and exports. Although consumption has expanded steadily in Japan (the middle left panel) recent strong GDP growth has mainly been underpinned by exports. With the fiscal impulse turning negative next year, we see GDP growth in Japan (line 6) as likely to decelerate markedly going forward.

Emerging market economies (line 7 of the table) continued to grow briskly in the first half of this year. China’s economy roared ahead, with real GDP (line 9) estimated to have expanded 9.5 percent in the second quarter. Industrial production has risen markedly across the Asian EMEs, especially in China (the green line in the middle right panel), but also elsewhere in the region (the blue line). GDP growth in Latin America (line 10), appeared to have stalled in the first quarter, but this reflected a contraction in Mexican GDP that probably understates that economy’s actual strength, and we see growth rebounding in the second quarter. EME imports (the lower left panel) have continued to surge, helping to support global growth. Going forward, we expect EME growth to hold up relatively well and expect these economies to continue raising policy rates in concert with other steps, such as imposing higher reserve requirements. Even so, we have marked down our outlook

for the EMEs by about $\frac{1}{2}$ percentage point on average since your last meeting to take account of euro depreciation against EME currencies and other adverse spillovers from Europe's crisis. Substantial outflows in May from funds that invest in EME equities (the lower right) suggest some risks of deeper contagion, though most of these countries appear to have scope to respond to such shocks through monetary and fiscal policy. China's recent announcement to allow more flexibility of the renminbi was largely anticipated by staff, and we continue to forecast a modest appreciation of the renminbi against the dollar this year.

Your next exhibit considers the U.S. external outlook. Europe's difficulties prompted flight-to-safety flows that pushed up the broad real dollar by about $3\frac{1}{2}$ percent since our last forecast in April. We expect that the dollar's path will remain well higher than we envisioned in April even as the gradual projected improvement in European financial conditions causes safe-haven flows to begin reversing early next year. Oil prices and nonfuel commodity prices (the upper right panel) have declined noticeably in the intermeeting period, and we expect most of this decline to persist through next year.

We have revised down our path for growth in real exports (the middle left panel) based on weaker growth abroad and a stronger dollar. Our forecast for real import growth (the middle right panel) has also been marked down, as the effect of weaker U.S. activity more than offsets the boost from a stronger dollar. Real net exports (line 3 of the table) are expected to make a negative contribution of less than $\frac{1}{4}$ percent of GDP over the forecast period, compared with the neutral contribution projected at your last meeting. This apparently small revision does not represent the entirety of the European crisis effect on U.S. trade; were it not for the markdown in U.S. GDP growth, we would have predicted a larger shortfall in U.S. net exports.

Your next exhibit examines vulnerabilities in the European banking system. As noted in the upper left, European banks experienced substantial losses on their loans and securities in the aftermath of the global financial crisis. In its April *Global Financial Stability Report*, the IMF estimated that euro-area and U.K. banks faced about \$350 billion in additional write-downs on top of the roughly \$750 billion in write-downs they have recognized since 2007. From a systemwide perspective, capital and loan loss reserves (the upper right panel), together with retained earnings, are generally regarded as providing an ample cushion to cover remaining expected losses, including by the IMF and ECB. Even so, the capital levels of major European banks are generally lower than their U.S. counterparts. Moreover, the distribution of problem loans falls unevenly across financial institutions. As information about the financial condition of particular institutions is often sparse, uncertainty about counterparty risk is likely to burden the financial sector until more aggressive steps are taken to differentiate strong and weak institutions.

Europe could experience even more formidable challenges if sovereign debt problems intensify in major European economies, such as Spain and Italy, rather than gradually abate, as in our baseline. As seen in the middle left, European governments took strong actions in the fall of 2008 to boost confidence in their banks, including

through expanding deposit insurance, guaranteeing nondeposit liabilities, and making capital injections. These efforts helped to limit the rise in five-year CDS premiums for highly rated European financial institutions (the middle right) to less than 200 basis points through 2008 and 2009. Europe's current fiscal crisis appears to have reduced market confidence in the ability of sovereigns to backstop their banks. As seen in the lower left panel, the ratcheting up in Spain's sovereign CDS premium has driven a similar run-up in the CDS premiums of highly rated and well-capitalized Spanish banks, including Santander and BBVA, to levels well above previous peaks reached during the financial crisis.

We see elevated sovereign spreads and higher associated borrowing costs as a major drag on Europe's near-term growth prospects. But, as noted in the lower right, there is still some chance that Europe's sovereign debt problems could ratchet up even more, perhaps due to the failure of some countries to implement fiscal consolidation measures or to a weaker economy causing banking sector problems to become more severe. In such an event, private borrowing spreads would also rise, risk aversion would increase, and government budget positions would deteriorate further, creating a potentially severe adverse feedback loop to Europe and the global economy.

Turning to exhibit 11, in a memo circulated to the Committee earlier this month, the staff attempted to gauge the potential quantitative impact of a full-blown European sovereign debt crisis using simulations of the multicountry SIGMA model. We developed a scenario in which: higher sovereign spreads boost euro-area corporate borrowing costs about 275 basis points, somewhat less than occurred in the United States in the fall of 2008; the euro declines an additional 30 percent against the dollar; and European governments are pushed into additional fiscal consolidation amounting to 2 percent of GDP on average. Finally, the United States and major U.S. trading partners outside the euro area are hit by somewhat smaller financial and confidence shocks that are associated with a 100 basis point rise in U.S. corporate yields.

The middle left panel shows that the shocks depress European real GDP (the blue line) by about 9 percent relative to baseline after two years. Domestic demand contracts substantially due to higher borrowing costs, weakened confidence, and fiscal consolidation. European net exports rise due to euro depreciation, providing some offset. The constellation of shocks sharply depresses U.S. real GDP (the red line) as dollar appreciation restrains net exports, and because domestic demand contracts as credit conditions tighten and confidence wanes; roughly $\frac{3}{4}$ of the U.S. output decline in the simulation is attributable to financial market spillovers to the United States and our non-European trading partners. The rest of the world (the green line) experiences a much smaller GDP contraction, as policy rates are reduced substantially and their currencies depreciate sharply against the dollar.

We regard the foregoing as a "tail risk" scenario, and our sense is that European policymakers and governments have taken substantial action that will help financial conditions eventually normalize. As noted in the bottom panel, it is entirely possible

that conditions in Europe may improve more quickly than envisioned in our baseline, as highlighted in an alternative scenario in the June Tealbook. Even so, the weak condition of Europe's economy, limited scope for monetary or fiscal policy action, and diminished ability of sovereigns to backstop their banks make it desirable to take additional steps to help avoid a crisis. These steps should involve facilitating the efforts of cash-strapped sovereign governments to clean up and recapitalize their banks, as well improving transparency to help markets more easily differentiate sound banks from problem banks. In that regard, the recent announcement that the European Union will perform stress tests of major banks, and that some national governments will follow suit, is a positive development.

We are skeptical that some countries, including Greece and Portugal, will adhere to a strict diet of austerity, and they may eventually default. But even delaying a crisis—including by taking the steps mentioned above—to a time when larger countries have regained market confidence, macroeconomic conditions have improved, and there is some scope to adjust policy rates can have a high payoff. In this vein, the middle right panel shows an alternative to our crisis scenario in which the emergence of the crisis, which involves the same shocks as in the benchmark, is delayed by six quarters to 2012:Q1. At this point, the European economy has more underlying momentum, and the expected path of the policy rate is sufficiently above its lower bound to provide greater scope for cutting policy rates in the near term after the crisis actually occurs. The contraction in European GDP is reduced by nearly half relative to the benchmark crisis scenario just discussed, revealing the value of “buying time” to avert a crisis when underlying conditions are especially weak. Nellie Liang will continue with the chart show.

MS. LIANG. Domestic financial conditions have tightened on net since the April FOMC meeting largely on concerns about the implications of the European debt crisis for the U.S. economy. As shown in the top left panel of exhibit 12, although Treasury yields and mortgage rates have fallen substantially, broad stock prices, shown to the right, fell notably as well, and those for banking firms (the purple line) dropped a bit more, perhaps also reflecting uncertainties about regulatory reform. As shown in the middle left, the implied volatility of equities (VIX) shot up. While it has receded in the weeks following the announcement of the EU and IMF actions and other policy measures, it remains somewhat elevated.

Financial market participants and economic forecasters appear to view recent developments in Europe as increasing the downside risks for the U.S. economy. As noted in the panel to the right, respondents to the Blue Chip survey in early June saw spillover effects from Europe's debt crisis as the largest risk to the U.S. economy in the next 12 months, and most believed that the primary channel would be tighter financial conditions rather than weaker exports. In addition, responses to the primary dealer survey conducted last week point to significantly greater downside risks to GDP than in the April survey.

The bottom two panels present measures of financial market participants' views about risks to stock returns—both inferred from options on the S&P 500 index. The

black line in the lower left panel plots the distribution of stock returns over the next 30 days as implied by options from yesterday, and the green line plots the distribution for the day before the April FOMC meeting. The distribution of returns from yesterday's option prices is a bit wider than the distribution from the April FOMC meeting, after having been substantially wider in May, the gold line, when the VIX was higher.

The panel to the right shows a measure of the downside skewness of the return distribution over time, defined by the distance between the 5th and 50th percentiles as a share of the distance from the 5th and 95th percentiles. The downside skewness moved up early in the intermeeting period, suggesting a higher perceived probability of a significant decline in the stock market and increased risk aversion for a given level of volatility. As the most recent flare-up in the VIX has subsided, this measure has declined somewhat, but it remains relatively elevated.

The next exhibit focuses on real estate and banking, two sectors that appear particularly vulnerable to weaker economic growth.

As shown in the top left panel, the number of distressed mortgages has climbed sharply in the past few years. Mortgages in foreclosure, the red shaded region, reached 2.4 million in the first quarter of this year, and, as shown by the gold region, another 2.6 million are 90 days or more delinquent but not yet in foreclosure; all told, almost one in ten mortgages are seriously distressed. Our forecast assumes that, as the economy continues to recover, new delinquencies will continue to decline and successful mortgage modifications will help work off the overhang of distressed properties. The sales associated with this process are expected to keep exerting downward pressure on house prices.

As shown to the right, after their sharp drop since 2006, prices of single-family homes seem to have decreased enough relative to rents to erase the apparent overvaluation in 2006. We project that house prices will fall a few percentage points more this year and then remain about flat in 2011; combined with a small increase in rents, valuations in 2011 will be about 10 percent undervalued. However, were employment gains to stall, new delinquencies might not decline and modified loans could re-default at an even higher rate than we have assumed. The resulting lower house prices and valuations would further erode household wealth and the profitability of the banking sector.

The next panels focus on the financial condition of the banking sector. As shown in the middle left, the liquidity positions of banks have been improving. The ratio of short-term noncore-deposit liabilities to assets (the green line) has come down in part as banks have reduced foreign and large time deposits, and the liquid assets ratio, the black line, has risen as cash, mostly reserve balances, has increased.

The return on assets for the sector, shown to the right by the gold line, eked out another gain in the first quarter. The increase came as loan loss provisions (the

shaded blue area) edged down, though they remained quite sizable. A measure of gross returns, the sum of the return on assets and loan loss provisions, shown by the dashed black line, has been relatively robust, suggesting that gains going forward will depend importantly on further improvements in asset quality.

However, as shown in the bottom left panel, in our baseline forecast, we project that loss rates on major types of bank loans, the first column, will ease only a bit from current levels through next year. Losses on commercial real estate loans (column 2) are expected to increase as property values continue to fall through this year, but the performance of other loan categories (column 3) is expected to improve as the economy strengthens.

The expected continued weak performance is reflected in supervisors' ratings of commercial banks. As shown to the right, assets held by banks with ratings of 3, 4, and 5 have soared since 2007; the \$4.5 trillion in assets held by these banks represents about 40 percent of the industry.

The next exhibit focuses on how further adverse events from Europe could affect U.S. financial institutions and markets.

The top left panel presents estimates from regulatory reports of banking system credit exposures to the peripheral European countries. U.S. banks are estimated to have had \$24 billion in exposures to Greece and Portugal at the end of 2009, but another \$208 billion to Spain, Ireland, and Italy. Combined, these claims represent 29 percent of industry tier 1 capital. Banks in France and in Germany have substantially greater exposures, which has raised concerns among investors about the risks of some of the large banks in these countries.

As noted to the right, bank supervisors began collecting information in February from the largest U.S. banks about their most significant credit exposures to peripheral Europe and about how the banks were managing their risks. Data reported by the firms show smaller exposures than the regulatory data, largely, we believe, because of differences in scope and reporting conventions. Based on these data, supervisors have roughly estimated the losses that would be generated if the riskiest sovereigns were to default, and the trading losses if asset prices were to deteriorate a bit more. A preliminary assessment is that direct losses to U.S. banks from defaults in Greece and Portugal, assuming minimal financial spillovers, would not be substantial. But supervisors have a number of concerns, including discrepancies in the data, the potential for further spillovers from defaults to financial asset prices, and indirect exposures of U.S. firms, such as to large European banks or to prime money market funds. The latter concern is heightened by the magnitude of the potential commitments, since the largest U.S. banks sponsor more than \$500 billion of prime money funds.

The middle panel elaborates on the exposure of prime money funds to Europe. Confidential data from a biweekly survey by ICI of the largest fund families show

that the exposure of prime money funds to peripheral Europe (Ireland, Italy, and Spain), column 1, is only 4½ percent of assets. But exposures to France and Germany total 20 percent of assets, and to other Europe, another 26 percent. The large exposure at prime money funds raises the potential for sufficiently adverse news from Europe to spark a run, which could disrupt short-term funding and damage market sentiment.

To date, money fund managers appear to be winding down positions and shortening tenors in an orderly fashion. As shown in the second column, the share of assets accounted for by entities of the peripheral European countries and in France and Germany fell a total of 2 percentage points over the two weeks ending June 2. Moreover, as shown in the right-hand column, the share of outstanding paper issued by such entities maturing in more than seven days fell, consistent with managers being less willing to provide funds at longer tenors.

In the U.S. commercial paper market, the outstanding amount of CP issued by financial institutions with parents in the peripheral European countries (the gold line in the lower left panel) and in France and Germany (the green line) has been falling steadily, while the amount of CP of firms of other Europe or the U.S. has held steady or risen. As shown to the right, spreads for all issuers of unsecured CP have risen since early May, with conditions especially volatile for some peripheral European countries.

Your next exhibit reviews the effects on the U.S. economy of the European debt crisis scenario that was just presented by Chris Erceg, in which increased concerns about the solvency of some European governments push Europe back into a recession. As noted in the top left panel, the reemergence of recession and the associated appreciation of the dollar would, through traditional trade linkages, be enough to slow the pace of recovery in the U.S. But we also assume financial market spillovers that would likely accompany such a “tail risk” event.

As shown by the red line in the right panel, U.S. stock prices are assumed to start about 20 percent lower relative to the baseline forecast, the black line, and the BBB-rated corporate bond rate, shown in the middle left, is 1 percentage point higher than the baseline. In addition, banks are assumed to tighten lending terms and standards in response to higher loan losses and the deterioration in the balance sheets of households and businesses. These shocks are calibrated to the fallout that Europe experienced during the U.S.-centered crisis in late 2008.

With financial conditions significantly more restrictive, the U.S. economy falls back into recession, and, as shown in the middle right panel, the unemployment rate rises substantially through 2011 rather than moderating. Moreover, the persistent level of slack leads to a temporary period of deflation, shown in the bottom left. Beyond 2011, the economy recovers gradually as the crisis abates, and the federal funds rate (bottom right), following a standard policy rule, remains at extremely low levels relative to the baseline for at least another year.

Your final exhibit focuses on valuations and leverage. By some measures, corporate bond valuations are somewhat rich. Far-term risk spreads, shown in the top left panel, which reflect investors' appetite for risk, have risen somewhat in response to the European debt problems, but they remain relatively low. As shown to the right, repo haircuts on corporate securities have come down this year and are just above levels prior to the financial crisis.

However, other valuations appear less rich. A measure of the equity premium, shown by the shaded area in the middle left panel as the gap between the expected return on equity and the real Treasury yield, widened in May from an already elevated level. In addition, overall leverage in financial markets from funding markets does not appear to have increased appreciably. For example, as shown in the middle right, triparty repo market activity has risen some since late last year but remains well below levels before the crisis. Reduced leverage suggests that declines in asset prices are less likely to be reinforced by asset sales of investors who might have to unwind their positions.

Finally, as shown in the bottom panel, debt growth of households (the black line) and nonfinancial businesses (the green line) remained negative in the first quarter. Business debt is on track to decline again this quarter, as robust profits and large cash positions limit demand for external funds and lending standards remain tight for some firms. In addition, we estimate that households have continued to delever this quarter as sluggish demand, tight lending standards, and substantial charge-offs limit growth in mortgage debt and consumer credit. Bill English will continue with our presentation.

MR. ENGLISH.⁴ Thank you, Nellie. I will be referring to the package labeled "Material for Briefing on FOMC Participants' Economic Projections." Exhibit 1 depicts the broad contours of your current projections for 2010 through 2012 and over the longer run. Almost all of you continue to project a gradual economic recovery, with GDP growth (the top panel) picking up a bit, the unemployment rate (the second panel) slowly trending lower, and inflation (the third and fourth panels) remaining subdued over the next few years.

Exhibit 2 reports the central tendencies and ranges of your projections for calendar years 2010 through 2012 and over the longer run; the corresponding information about your April projections is indicated in italics, and the current and previous staff projections are included as memo items. On balance, your forecasts for this meeting generally suggest a slightly weaker path for the real economy and a bit less inflation than you projected at the time of the April meeting. In your forecast narratives, a number of you noted that these changes were the result of incoming data and the expected effects on the U.S. economy of the European fiscal crisis. As shown in the top panel, the central tendency of your growth projections for this year is slightly lower than in April; most of you now anticipate that real GDP will increase

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

3 to 3½ percent in 2010, versus 3¼ to 3¾ percent in the previous forecast. You see growth stepping up to 3½ to 4¼ percent in 2011 and remaining near those rates in 2012. The downward revisions to your growth forecasts for this year are similar to those in the staff forecast, but the Tealbook projection for growth for next year has been revised down more substantially than the central tendency of your projections, from 4.4 percent in April to 3.7 percent in the current round. Both the central tendency and the range of your estimates of the longer-run sustainable rate of GDP growth, the right-hand column, are the same as in April.

Your unemployment rate projections are summarized in the second panel. The central tendency for the average unemployment rate in the fourth quarter of this year is 9¼ to 9½ percent, little changed from April. But, consistent with your expectations of only a gradual economic recovery, all but one of you anticipate that the unemployment rate will remain above 8 percent at the end of next year. Moreover, most of you project that the unemployment rate will be about 7 to 7½ percent even in late 2012—well above the unchanged 5 to 5¼ percent central tendency of your estimates of the unemployment rate that would prevail over the longer run in the absence of further shocks, which is shown in the right-hand column. It appears that most of you, like the staff, continue to anticipate that the long-run performance of the labor market will not be significantly undermined by the substantial economic downturn and the slow recovery.

You generally project that inflation will remain subdued, and the dispersion of your inflation projections has narrowed somewhat since April, particularly for this year and next. The central tendencies of your projections for core PCE inflation for 2010 and 2011, shown in the fourth panel, have shifted down a bit and now run ¾ to 1 percent this year and about 1 to 1¼ percent next year before rising to 1 to 1½ percent in 2012. The central tendencies for headline inflation, shown in the third panel, follow a broadly similar path. Most of you project that headline inflation will stay at or below the 1¾ to 2 percent central tendency for the “mandate-consistent” inflation rate, shown in the right-hand column, throughout the projection period.

Your views on the outlook for inflation continue to differ somewhat from the staff’s. In each of the three years, the Tealbook forecasts for total and core inflation are generally at or below the lower limits of the central tendencies of your projections. This difference in views helps explain why a sizable majority of you anticipate that it will be appropriate to begin increasing the federal funds rate earlier than is assumed in the Tealbook.

As shown in exhibit 3, three-quarters or more of you continue to be more uncertain than usual about your projections for growth and PCE inflation, the solid bars in the two left-hand panels. As shown in the top right panel, about half of you now judge that the risks to output growth are tilted to the downside, a significant change from your assessments in April. Most of you continue to view the risks to the inflation outlook, the bottom right panel, as balanced, though there has been a small

shift toward downside risks here as well. That concludes our prepared remarks. We'd be happy to take your questions.

CHAIRMAN BERNANKE. Let me thank the staff for a very comprehensive presentation. I want to take special note of the section on financial stability, which reflects requests that we had at the last meeting. Besides the presentation, of course, some memos were also circulated. If you have additional requests for future presentations, or you have metrics or data that you'd like to submit for inclusion in a presentation, please don't hesitate to do so. Also, I think it would also be remiss of me not to take note of the Tealbook [laughter], which, of course, is a perfect combination of blue and green, which I found very convenient. Again, if anyone has any suggestions, I'm sure the staff would be happy to hear them. Are there questions for our colleagues? President Rosengren.

MR. ROSENGREN. I found the financial stability memos and briefing very, very helpful, and I just wanted to follow up on your comment on Greece and Portugal and the notion that, while a default isn't imminent, it may occur over time. My reading of the Reinhart and Rogoff book was that they highlighted sovereign defaults that were often accompanied by very large exchange rate movements as well, and I take it that that's not embedded in your longer-run forecast. I was wondering if you could talk about how you would see the Greeks making a choice in the situation that default is likely to occur. Would they choose to restructure or would they pull out of the euro and revalue their exchange rate, which would give them a terms of trade advantage to offset some of their unemployment problems?

MR. ERCEG. Just to reiterate, certainly it's not our expectation that Greece or Portugal would leave the euro area. We think that, given the financial aid package to Greece, they have a strong incentive to continue with their program to try to reduce the primary deficit over the next couple of years, and we think it's very unlikely that they would want to default. At some point

down the road, when their primary balance actually shifts back towards zero, then it's quite possible that they would consider a strategic default. It's probably more likely under those circumstances that they would seek a restructuring, and we don't think it's very likely that they would actually attempt to leave the euro area. Perhaps Nathan wants to add something.

MR. SHEETS. This is a really, really tough question—it throws us into a truly Knightian world, and I'm not quite sure how to parse out all the pros and cons. My gut instinct is that, at some point over the next three to five years, the Greeks are going to have to restructure their debt. I don't expect them to leave the euro area, and my intuition for that is that leaving the euro area would be even more disruptive for them and for their economic relationships than the debt default would be. I think that they've seen over the last decade that they benefit from deeper integration into Europe and the backstop that that provides. I don't think that it's in their interest to leave, even if it would provide a temporary boost to their competitiveness. Now, one can also argue that maybe Europe is going to decide they don't want them anymore, and they're going to develop new institutions to give them the capacity to eject a member—again, we're in kind of a Knightian world of all sorts of different options. But I would put a fairly high probability on an eventual restructuring—at some point beyond the end of the forecast period, as Chris said. They have enough money committed now to get them into 2012, but I really would not put a lot of weight on a country leaving the euro area—probably less than the 20 percent weight that Brian's survey yielded.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. First, Mr. Chairman, on the Tealbook, I thought it was great, and I'll add a little historical footnote. The first use of the word “teal” as a color description was 1917. So it goes back in our history. But it's also forward-looking, because the Unitarian hymnal, which is

gray, by the way, was translated into Spanish, and all of the hymns in Spanish are in what they call the Tealbook. So thank you for looking forward to our universal language here in the United States.

MR. ERCEG. Thank you for that.

MR. FISHER. I have a couple of questions on the international section. One inflationary impulse that I hear countering a tremendous amount of deflationary impulses relates to transportation. The HARPEX Index and the Hamburg Index, which measure container transportation, have come up dramatically since mid-June, and you hear retailers complain about that. Second, of course, is the expectation that Chinese prices are pretty stiff, given wage settlements and given what they're asking for during the post-Christmas buying season in terms of clothing, shoes, and other things. In your presentation for global economic growth, we have reduced our expectations, including for China, and I'm wondering how you account for these transportation pressures. Is it slow steaming, or is it something else, a dynamic that's in place?

My second question is: Are we likely to see the Chinese back off from some of these price demands? The reason I ask is that I don't believe there's much likelihood that it will work its way through to consumption here, but it does impact retailers' margins. I'm curious as to what your views on those two issues are.

MR. ERCEG. Certainly, Chinese trade has continued to boom in both directions: Imports have been extremely strong and exports were extremely robust in the May data, which are the most recent. Presumably, that has put upward pressure on transport prices. Regarding those relative price changes, I'd be happy to defer to anyone who knows more about these particular markets, but, certainly, I think that Chinese demand really has steamed ahead. It's worth noting that in marking down our forecasts, it really is primarily in the expectation that

Europe's woes will damp confidence. If we look just at the incoming data, these economies look like they're roaring ahead. So, in formulating our forecast, there's some tension between extremely strong economic growth numbers that are surprising us, as I mentioned, on the upside and concerns about how developments in Europe are likely to affect business confidence and what the effects through asset prices might be on financial markets, for instance.

Regarding your second question about whether the somewhat weaker global outlook might mitigate these pressures boosting prices, certainly it stands to reason that the weak domestic demand in Europe could serve to diminish upward pressures on prices of traded goods. Now, some of the price pressures could reflect secular developments in the Chinese economy, where they're moving towards increasingly specialized goods and moving out of the low-tech areas, so those sorts of relative price changes could well be more enduring. I would think of it as part of the transformation of the Chinese economy that we have seen in many of the emerging market economies that are further up the growth ladder, such as Korea; so some of that is probably enduring.

MR. FISHER. Thank you.

CHAIRMAN BERNANKE. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. Looking at exhibit 14, I want to ask a sort of qualitative question, and that is: In summary, how would you characterize our grasp of our system's exposure, and I mean not only direct exposure, which is pretty well measured here, but also indirect, counterparty kinds of exposures, which, I guess, as of now we don't fully understand because the stress test results are not known. Contrast that, if you would, to the run-up to the seizing up of markets in September 2008.

MS. LIANG. Supervisors have information they collected from the largest firms on the largest significant exposures, which include sovereigns, corporates, financial institutions; and, for a set of the largest firms, they have been collecting counterparty exposures on similar types of things for quite a while. Again, these are the most significant exposures. If you're worried about the entire Greek economy and the whole retail exposure, they don't have that totally. I'm going to wrap that up into spillover effects. It's not financial spillover, but it's spillover to the economy.

There's a little comfort, but we tried to emphasize how much concern there is about the quality of the data they have. For example, there's quite a bit of netting of things that goes on—there are certain conventions you follow to net for the regulatory reforms, and then there are different netting conventions firms might use for their own risk-management systems, which supervisors need to get into to see if they're comfortable with them. These don't include contingent exposures, such as undrawn commitment lines or CDS written, those kinds of things. I think there's definitely a “next step” concerning what else they're going to go in and get a little more information on, and conversations with the chief risk officers are ongoing right now.

CHAIRMAN BERNANKE. Other questions for our colleagues? [No response] Seeing none, I think it would behoove us to get started on the go-around, if that's okay. We won't take too long because we have, of course, our June dinner at the embassy this evening. President Lockhart, would you like to kick it off?

MR. LOCKHART. Thank you, Mr. Chairman. First, I'll talk about feedback from contacts in the Sixth District. They have become more reserved in their optimism, less unambiguously confident that the recovery will continue, as the events and risk factors that accumulated since the last meeting have made business contacts “more pensive,” as described by

one of our directors. Among the accumulated events causing this reaction is the Gulf oil spill. Because its direct effects are most felt in my District, I'd like to spend a couple of minutes commenting on the oil spill. The direct effects of the spill on the Sixth District economy are, so far, quite modest. About 130,000 jobs, not including those in exploration and drilling, are directly at risk, mostly in areas connected with commercial fishing, recreation, and tourism; then, ultimately, there will be some at risk in drilling and exploration. In many instances, direct costs have been temporarily offset by cleanup spending and compensation by British Petroleum. We're closely watching port activity, but to date the effect on ports in the northwest Gulf area has been negligible.

Aside from the angst that results from the environmental effects of the spill and the modest economic effect so far, there is concern that hurricane season will bring a storm that spreads the physical problem in unpredictable ways. For example, contacts in the power industry are concerned about potential problems for upstream power-generating facilities that use near-coast river water for cooling. So far, however, there have been no power disruptions.

Deepwater drilling will be affected so long as the moratorium continues. The estimates of job losses directly resulting from the moratorium range from 20,000 to 50,000 over the next 12 months. Contacts in Louisiana expressed concern in recent board meetings about the longer-term costs of reduced drilling activity. Given that the physical capital—rigs and associated equipment—that's used in drilling operations is mobile and scarce, there is much concern that it will be deployed elsewhere in the world and that the energy industry and the region will be permanently affected.

Although the measurable economic impact so far is limited, this episode is weighing heavily on the attitudes of households and businesses in the Gulf region and, I would suspect,

with the American public more broadly. I think uncertainty about the duration and extent of this growing environmental tragedy is contributing to what one of my directors called “an attitude of cautious pessimism.” We have a team in our research department that’s dedicated to following the oil spill and its effects, and, if it’s appropriate, in future meetings I’ll report to the Committee on their findings.

Before turning to the national economy and forecast, let me add a few other pieces of feedback from our recent soundings in the District. The transportation and logistics sector is seeing exceptionally strong demand. Because of large reductions of capacity during the recession, the increased demand is causing transport bottlenecks and giving service providers pricing power. One contact believes wholesalers and retailers are using transport as a substitute for building inventories—that is, requiring more frequent and smaller lot shipments. The CEO of a commercial airline reported a very strong resurgence of business travel, up an estimated 60 percent from a year ago. Almost all our corporate directors reported strong cash accumulation, and this was confirmed by bank directors. Loan demand, however, remains very weak. Finally, at the May meeting of our Real Estate Advisory Council, members warned against becoming complacent about problems in the commercial real estate sector. They felt the problem is not receiving sufficient attention, because the bulk of property loans has not yet come due.

Turning to the national economy and the outlook, my reading of the national economic situation is that recovery continues, but incoming data are quite mixed, and potentially transitory sources of strength have not yet evolved to broad-based and sustainable final demand. My sense is that the economy is moving through an ambiguous phase, and visibility has shortened due to the sovereign debt problems and the banking situation in Europe, softer consumer numbers, and

a stall—admittedly, only one month’s data—in private job creation. My previous forecasts have been somewhat less optimistic than the then-Greenbook and the central tendency of the Committee. I’ve pushed up my estimate for second quarter growth, but otherwise have not changed my outlook from the last meeting. My forecast now is close to the recent Tealbook for this year and next.

Finally, as regards the balance of risks at this juncture, I have shifted from one of the one or two of us who weighted the risk to the upside at the last meeting and now I see it as balanced, so I’m directionally similar to the majority of the Committee. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. Since our last meeting, economic activity continued to show modest gains in the Third District across most of our sectors. Residential real estate is the exception. Our contacts say there has been a distinct softening in activity since the end of the tax credits, and builders report that they do not expect construction activity to pick up much this summer. However, the tax credit clearly pulls sales forward, so it may take several months before we will be able to make a more informed assessment of the housing market. On a positive note, foreclosures and mortgage delinquency rates in our states are showing signs of moderating and are considerably below those of many other states that enjoyed bigger booms and are now suffering sharper busts.

Payroll employment in the three-state region increased during the three-month period ending in April, and the region’s unemployment rate remained unchanged at 9.3 percent for the third consecutive month. However, the number of unemployed people fell in April for the first time since the start of the recession. Temporary Census workers have contributed to payroll employment growth in the District since February. One contact, however, from a large national

placement company, said that orders for temporary workers were up sharply, perhaps reflecting some substitution from temporary private sector jobs into the Census jobs. However, employment gains are likely to be slow. The employment index in our business outlook survey of manufacturers turned negative in June for the first time in seven months. In May, we asked a special question about hiring plans. Nearly 59 percent of the firms said they expect to increase production in the next six months, but only 30 percent expected to hire additional workers to do it. The others plan to increase hours worked of current staff. Important reasons cited by firms for not hiring were concerns about future employment costs, including health care and taxes, and uncertainty about future product demand.

Manufacturing activity remained positive in June. However, our index of general activity fell from 21.4 in May to 8 in June. That is its lowest level since turning positive in September of 2009. However, underlying that, new orders and shipments remained strongly positive, at levels consistent with typical economic recoveries. Prices remained subdued. For manufacturers, the index of prices received fell but remained positive in June, while the prices paid index actually turned negative for this month. In addition, manufacturing firms' expectations for price increases over the next six months have fallen for the last two months. Retailers report mostly flat selling prices.

Overall, the optimistic tone from my District contacts has moderated somewhat since our last meeting. However, the general outlook continues to be for modest gains in most sectors, and our leading indicators constructed for our remaining states have remained positive for the last five months.

My view of the national economy is similar to what we see in the District. The troubles in the euro zone have raised the risk around my forecast, and I have shaved my forecast for

economic growth for this year by a tenth or two and raised my unemployment path somewhat over the horizon. I have also shaded down my inflation forecast for this year, reflecting weak numbers that we have seen so far. However, I expect inflation to increase gradually over the forecast horizon.

I believe that we do have a sustainable economic recovery, and that that remains the most likely outcome, while acknowledging that the troubles in Europe represent a cloud for that forecast. I am projecting GDP growth of around 3½ percent over the next two years, employment growth picking up over the rest of this year, and the unemployment rate falling gradually over the forecast horizon. Data on hours worked are strong, are improving, and private demand for temporary workers remains an encouraging sign for future employment gains. My baseline forecast already incorporates weaker growth than what the historical correlations in the data would suggest, given the depth of this recession. The upside risk that I had in the last forecast is now balanced by the downside risk to growth from the fiscal strains in Europe. So, though at the last meeting I thought the risks were tilted to the upside, now they're balanced from my perspective.

My inflation forecast continues to differ from the Tealbook. In the near term, I expect underlying inflation rates to remain subdued, but I expect inflation to drift up gradually over the next couple of years, especially if we make no move to raise rates until the summer of 2012, as in the Tealbook. I continue to believe that we will need to begin raising the fed funds rate in the second half of this year, as the growth rate of the economy, and, therefore, the underlying real rate of interest, begin to pick up, if we are to keep inflation and inflation expectations well anchored. My underlying assumption of appropriate monetary policy in my forecast is that the

funds rates will reach about 1 percent by the end of this year, still very low by historical standards, and rise slowly thereafter. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Rosengren.

MR. ROSENGREN. Thank you, Mr. Chairman. At my directors meeting last week, several directors made an analogy to a turtle that had bravely stuck its head out in the first quarter, but quickly retreated to its shell in May. [Laughter] Most of the data we've seen reflects the period when the turtle was out of its shell, but, in the coming weeks, I'm afraid we'll get confirmation detailing why the turtle's courage was short-lived. Many of my contacts highlighted that the headlines from Europe have caused them to reevaluate hiring and investment decisions, presumably linked in large part to the expectation of declining export demand as the dollar strengthens and many countries undertake fiscal tightening.

My forecasts have been predicated on a fragile job market, partly offset by moderate growth in business fixed investment. If my business contacts' pullback in these key areas in the face of European problems is representative, then the risk of slower growth than I had previously forecast has increased. And my concern over the outlook extends beyond the effects of European troubles, with state and local spending clearly in retreat, and with the housing sector likely faltering. In sum, I am worried that the Tealbook may be too optimistic.

In terms of financial markets, I am concerned about the effects of a gradual but cumulatively significant withdrawal from European exposures. U.S. money market funds have been an important source of funding for European banks. My contacts with money market funds indicate that they are becoming increasingly concerned about exposure in Europe. In particular, the money market funds are concerned that investors in their funds will flee if they see large exposures to Europe and cannot differentiate between sound and weak European names. In

general, there's a lack of confidence in the political will to make adequate adjustments in Europe. If my contacts are right, the problems emanating from Europe will gradually worsen. I share many of their concerns, and I am more concerned about Europe being able to muddle through than is reflected in many of our briefing documents.

Even if Europe is able to avoid a severe contraction and more significant financial problems, my outlook in the near term for the U.S. economy entails a heightened risk of deflation. Spain and Ireland are experiencing deflation even before the full effect of fiscal austerity has been felt. Japan remains in deflation and has shown little ability to pull out. I am worried that we may be underestimating the risk of deflation and that we are placing too much weight on well-anchored expectations at a time when we are seeing disinflation in wages and declines in a surprising number of components of the CPI. While I'm confident that we have the tools to offset inflation, the Japanese experience makes me less confident about the tools available to offset deflation. Should the European problems cause an economic stall, the deflation risks would become even greater.

Given the move towards fiscal austerity in the United States that is likely to be even more pronounced after the election, and given that alternative monetary policies have shown to be of only limited help, both here and abroad, it is not clear how forceful our response would or could be if the economy slows and we experience deflation. This is a risk we should be seeking to minimize and is something we should take seriously as we think about adverse economic scenarios.

CHAIRMAN BERNANKE. Thank you. President Pianalto.

MS. PIANALTO. Thank you, Mr. Chairman. The incoming data since our last meeting were on balance largely consistent with my outlook for growth, although recent price and wage

data have caused me to revise my inflation projection downward slightly. What has changed the most over the intermeeting period is my assessment of the risks to my outlook, and I want to focus on two key risks—the European debt crisis and the downward momentum in the inflation process.

The sovereign debt crisis in Europe and the consequent financial turbulence has dominated financial market behaviors over the past several weeks. Although this is troubling, my outlook assumes that European policymakers will prevent the crisis from escalating further. In my forecast, the effects of the crisis on output are modest and result only from diminished export demand and a weaker euro. Overall, I didn't revise my forecast for output very much since our last meeting. And with the Tealbook's downward revision to output, our projections now are very close—both have moderate and unspectacular economic growth this year and next. This outlook for growth is consistent with what I am hearing from my business contacts, who generally are reporting gradual growth

At the same time, many of my contacts are reporting concerns about the potential scope of the European debt crisis. For example, a manufacturer of capital equipment used in steel production reported that his order backlog has already been reduced by a combination of weaker growth in southern Europe and exchange rate movements. The effects on his output have been limited to date, but going forward he is concerned about a potential for further depreciation of the euro, which would likely turn his business sharply downward. The European debt crisis is also having an effect on business sentiment. Some of my contacts are quite concerned about the prospect of more trouble in financial markets, and they are saying that, if these concerns become realized, then we could see a slowing of projects that might otherwise be funded.

Reports like these lead me to believe that the European debt crisis poses a substantial risk to my outlook. My staff considered some alternative scenarios to the European sovereign debt crisis that were less dire than those in the Tealbook's tail risk scenario but still substantial enough to create a risk to my outlook. I don't think these scenarios are very likely, but I do think that the European debt crisis merits close monitoring, and it is the main reason that I have shifted my risk to output from balanced to weighted to the downside.

On the inflation front, most of the incoming evidence supports further disinflation. With respect to the price data themselves, there is simply no momentum to signal an imminent upturn. Core inflation, as measured by the Cleveland Fed's median CPI, continues to drift lower. It dropped to 0.5 percent on a year-over-year basis in May, and that's an all-time low. Compensation growth also continues to weaken, pushing unit labor costs lower. Furthermore, some of this downward momentum in inflation may be spilling over to inflation expectations. In the past month, the Cleveland Fed's inflation expectations model, which limits the effect of flight-to-quality issues, shows a drop of over 15 basis points at all horizons less than 10 years. These developments have caused me to revise down my inflation forecast, and it's now more like that in the Tealbook in the medium term.

Given that I have repeatedly revised down my inflation outlook, I am concerned that there may be downward momentum in the inflation process that I am not incorporating in my outlook. And the European debt crisis also presents further downside risk to inflation through the exchange rate and weaker foreign growth. In summary, the risks to my outlook for growth have shifted to the downside, and the risks to my outlook for inflation continue to be to the downside. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Fisher.

MR. FISHER. Thank you, Mr. Chairman. My colleague to my left, President Bullard, talked about LIFO accounting regarding our balance sheet. In my District's economy, we're basically are fortunate to have been last into the recession, and we appear to be one of the first coming out. There is some dissonance between what I'm seeing locally and what I'm hearing from the CEOs that I survey around the country. So let me give you a brief report.

As far as our District is concerned, we just received the May payroll employment figures, and our private sector payroll is up 4.7 percent year over year at an annual rate. The unemployment rate stays steady. We have a lot of people coming into our workforce. There are some awfully good things happening in the Eleventh District from the standpoint of manufacturing employment--our index indicates it has risen to the highest level in three years. Our construction employment soared in April and continued to do so in May. Interestingly, if you talk to the small retailers, particularly the convenience stores, they're seeing a new influx of Mexican workers. We're not sure if they are coming from Mexico or from Arizona.

Our housing inventory fell to a total of 6.9 months after a slight increase in February. The leading index has risen now for the third consecutive month, and we find a modest pickup in input prices reported by our manufacturers, but there's very little pass-through to consumer prices. So our region is enjoying a robust emergence from the recession, which we went into very late.

As far as the national economy is concerned, I will just share the anecdotal evidence that I have picked up from the list that I gave you, Mr. Chairman. I am going to use a term only to flatter my colleague from Minnesota, because I doubt the Minnesota Gophers have been talked about—it was a football team for many, many years. [Laughter]

MR. KOCHERLAKOTA. Thanks for the flattery.

MR. FISHER. That's as much as you're going to get. And I warned you, Mr. Chairman, I would probably talk about a "Bronko Nagurski" economy. Now, I'm probably the only person here old enough to remember who Bronko Nagurski was—maybe Governor Kohn also remembers [laughter]. Basically, you gave him the ball—

MR. KOHN. I taught him everything he knows. [Laughter]

MR. FISHER. Yes, I know. You gave him the ball if you wanted to run right up the middle and gain short yardage, which he was consistently good at doing, and for that he was named three times, at three different positions, as an All-Pro. No one has broken that record.

Why do I mention that? Because what brought us out of the end zone was inventory correction. That player's legs are tired, and I think that has basically run its course. I'm hearing that from almost every sector that I talked to. The second yardage was gained by equipment and software, and again, even though that continues if you talk to computer manufacturers and others, you're beginning to see a slowdown or a tempering of that activity. The game has basically become a short yardage game, running up the middle, a cloud of dust, but still making forward progress on the field. It's standard blocking and tackling, and I think the pace has slowed down, and, therefore, I have revised down my expectations for the second half.

Every single businesswoman or man I speak to that is in a position of leadership describes the following circumstances. They have gone back to basic blocking and tackling. They are beset not just by concerns about demands for products, say, in weakening areas like Europe, but also by something we have not mentioned, which I will refer to as random refereeing—that is, they beg for the huddle. They say they're going to give Bronko Nagurski the ball, and the ref comes up and says, "By the way, this time the first down is 15 yards." In other words, there is enormous uncertainty, which we discussed before, about the impact of

government programs and regulation. For example, one CEO reports that in the new health care bill there are 1,100 instances that are “to be determined” by the Secretary of Health and Human Services. There is no way you can cost out this random refereeing. In the case of the casual dining sector, they estimate it will triple their personnel costs, or in the case of a large company like Exxon or AT&T, which has all the legal power in the world, they still cannot figure what the impact is going to be on the cost structure, which inhibits planning. That is point number one.

Point number two is that enormous cash build-up has taken place in the corporate sector. According to the *Wall Street Journal*, which may or may not be reliable, the S&P 500 has built up \$1.8 trillion in excess cash over the cash flow needs. Every CEO or CFO I talk to has excess cash. What are they doing with the excess cash? They’re either buying their own stock—for example, Texas Instruments has bought 30 percent of its own stock—or they’re going to increase their dividend payments. I’m having a hard time finding people who are willing to add to their workforce until the random refereeing stops, until there is greater certainty. I am also deeply disturbed by a phenomenon that I have reported before regarding cap-ex intentions—if my contacts are going to expand plant and equipment, they don’t plan to do it here.

So, Mr. Chairman, I would say we still have inhibiting factors, including uncertainty, which stems from external developments and the lack of clarity as to rules and regulations that are likely to impact those who hire, especially the small business sector that doesn’t have the resources that large corporations do to try to decipher what’s coming out. These factors are going to inhibit employment growth; at the same time, they will hold inflation at bay.

In concluding, I’d like to follow up on Sandy’s comment on her staff’s median CPI index and say that our trimmed mean index is, again, continuing to diminish and show less inflationary pressure. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Evans.

MR. EVANS. Thank you, Mr. Chairman. I'd like to add my compliments to the staff on the Tealbook and the financial stability memos. I thought they were really terrific, and I think they'll help sharpen the focus of our discussions going forward.

The data in my business reports indicate that the recovery is continuing at the moderate pace we've expected for some time now. To me, it seems likely that the unevenness in some of the recent monthly data is symptomatic of this moderate pace. I think it's too early to infer much more than that, but the uncertainty is high. Labor market improvements will be gradual for the foreseeable future, and the continued weakness in the jobs picture could weigh on household and business sentiment for some time.

Regarding inflation, the data currently suggest that the pull from disinflationary forces is somewhat stronger than the anchor from stable inflation expectations—that's a slight change in my perspective. Because inflation is projected to underrun my 2 percent inflation goal over the medium term, according to FOMC central tendencies, it's difficult for me to imagine altering our current accommodative policy stance over the next six months or so, and certainly not in a material fashion.

Turning to my business reports, and in line with my assessment of the economic outlook, most comments fit into a "more of the same" theme. Ford and GM both reported good results recently. Incentives are not high. Inventories are lean, and the current 11.5 million unit sales pace appears to be profitable. The steel industry continues to bring more capacity back on line. Smaller industrial segments that are indicative of future activity, like industrial packaging and strapping materials, continue to improve at a strong rate, but, while capital equipment is selling well, business sentiment about cap-ex spending remains weak.

I will just pause and mention that I asked all of my manufacturing contacts whether they saw something in Europe that was materially different recently, and it just seems as if it's much too early to tell, not surprisingly. But I did get from them a sense that there's still good momentum in their business activity in Europe. So it might take several months before we see anything in the data.

The pace of employment growth continues to be slow, and I didn't hear any particularly interesting new news about labor markets this round. I was going to stop there, but I just want to point out that a lot of people have mentioned already that they talked to businesspeople who say that they're nervous about Europe and they're not going to hire. They've been saying they weren't going to hire for some time. So we're already at the zero bound, it seems, for hiring—it's hard for that to get worse.

The financial reports from our Chicago market contacts seem roughly consistent with the financial stability memos. Funding availability is increased for the better quality borrowers and market segments. One contact noted having maybe a dozen bidders for CRE deals he was putting together, whereas, four or five months ago, investors would have laughed his proposals out of the room. Most of these deals are on conservative terms for properties with stable cash flows. New construction loans, in contrast, are very difficult to obtain. We did hear a number of comments regarding some pullback on risk and leverage since May. For example, some dealers are unwilling to buy for inventory in their marketmaking capacity, and some hedge funds are buying CDS protection and put options as a way of limiting downside risks. However, on the plus side, obligations of nonfinancial firms were not particularly stressed in May.

Turning to the international situation, the increasing emphasis on austerity programs in Europe presents some unique challenges for the U.S. outlook and policymaking. I thought the

international memos and risk scenarios were very helpful for thinking through that this time. When you consider straight import–export multipliers, it’s hard to come up with major effects on U.S. growth. But, at conferences I attended recently overseas, the European and other foreign central bankers I spoke with seemed pretty complacent about the prospects of demand from the U.S. providing important support for continued export growth worldwide. I’d tell them it seems hard to imagine that the American consumer will return to its 15-year run of stimulating world growth, but their reaction was either puzzlement or denial of such prospects. So I am concerned that foreign policymakers are underestimating the effects that their belt tightening will have on their domestic economies. Of course, the larger risk would be a further deterioration in international financial markets, as the chart show and financial stability memos discussed. But, for the moment, these are mostly just tail risks. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Yellen.

MS. YELLEN. Thank you, Mr. Chairman. I, too, want to thank the staff for the excellent financial stability memos—they were very helpful. I also want to say how much I like the Tealbook. I don’t know about the name—it’s hard to get used to—but I liked the book.

MR. TARULLO. Particularly when it’s not teal.

MS. YELLEN. That’s true. Economic data releases since our April meeting have been consistent with the moderate recovery, but the turmoil in Europe with resulting deterioration in financial conditions during the intermeeting period pose substantial risks to economic growth and global financial stability going forward. The timing could hardly be worse. Monetary accommodation is stretched to the limit. Fiscal policy is likely to turn more restrictive in many countries, and inflation is undesirably low and trending lower. Like the Tealbook, I’ve lowered my projection for economic growth. The most recent data suggest some slowdown in consumer

spending, and the moderation evident in the aggregate data accords with reports I'm receiving from my business contacts. Major retailers with whom we have spoken during the past month typically report that spending is flat or growing at only a very modest pace. They hypothesize that the spending spurt that occurred earlier in the year reflected catch-up purchases by individuals who deferred buying discretionary items in 2009 due to uncertainty about their employment prospects. With layoffs abating, those who are still employed apparently are less fearful about job loss.

Looking ahead, both the deterioration in domestic financial conditions and the reduction in the outlook for foreign growth have caused me to trim my forecast for the second half of this year and next year. I now expect real GDP to increase about 3½ percent this year and a touch under 4 percent next year. The prospect of subpar growth is likely to make the labor market recovery even more agonizingly slow than I previously expected. I now anticipate that the unemployment rate will end this year at about 9½ percent, declining only to 8½ percent at the end of 2011 and will take a couple of additional years to return to full employment. As Bill Wascher emphasized, long-term unemployment has now risen from its pre-recession level of about 1 percent to over 4 percent, and, as of May, 46 percent of the unemployed had been without a job for at least 27 weeks. This is an extremely disconcerting situation, one that translates into tremendous hardship for families and that has potentially serious adverse long-term consequences.

Turning to inflation, the very low recent readings on core consumer price inflation are worrisome. I expect core PCE prices to rise about ¾ percent this year and a little below 1 percent next year. Both figures are a touch below my April forecasts, reflecting the greater slack in labor and product markets I now expect and the effects of the stronger dollar. Labor

compensation growth remains anemic. Indeed, my business contacts report no sign of labor cost pressures outside of health and unemployment insurance. The economy's substantial slack will continue to weigh on inflation, and the recent appreciation of the dollar should put some further downward pressure on prices. Nonetheless, inflation expectations remain well anchored, which should put a floor on disinflation.

Recent events in Europe have put to rest any thought I had that the risks to the outlook were diminishing to normal levels. The very scary Tealbook simulation of the severe European sovereign debt crisis illustrates the scope of the potential downside dangers. Another risk that concerns me, albeit a far less dramatic one, is that the underlying trend in productivity growth may be significantly stronger than either the Board staff or I have assumed. The Tealbook forecast assumes that labor productivity growth will slow sharply from its recent rapid pace to a little above 1 percent this year and next. This is well below the Board staff's estimate of structural productivity growth of 2 percent, and it reflects some payback from the extraordinary productivity gains of 2009 and early this year resulting from the reversal of strains on workers—strains that will not prove sustainable.

But such a productivity slowdown would represent a marked departure from the pattern of past recoveries. Historically, labor productivity nearly always grows rapidly during the first two years of an expansion. This is because measured productivity typically rises as firms increase the intensity with which they use capital and labor. The sharply rising rate of capacity utilization expected over the next few years should, if anything, boost productivity growth, in contrast to the forecast in the Tealbook. The prediction of slow productivity growth also appears inconsistent with what I have been hearing from my business contacts. They tell me that recent productivity improvements, although born out of necessity, have become the new normal and

reflect permanent changes in the way they do business. To the extent that they're right, the level of structural productivity may be significantly higher than assumed in the Tealbook, and productivity growth over the next few years may be higher as well. Such a situation is illustrated by the jobless recovery alternative simulation in the Tealbook that assumes that productivity growth will be about 2½ percent this year and next, rather than 1 percent. Of course, faster productivity growth is a good thing to the extent that it implies greater capacity to produce goods and services. But the alternative simulation also shows that a stronger productivity trend would lead to significantly higher unemployment and lower inflation, outcomes that move us further away from our dual mandate goals.

In summary, I still ascribe to the view that the economy is on a recovery path of moderate growth and very low inflation, but significant downside risks to the outlook have once again materialized and that implies that we should avoid altering policy in any way that could impede a fragile recovery.

CHAIRMAN BERNANKE. Thank you. It's 6:00 p.m. Why don't we adjourn for today? Of course, we have dinner at 7:30, I believe, at the British Embassy, and we'll begin tomorrow morning at 9:00 a.m. Thank you very much.

[Meeting recessed]

June 23—Morning Session

CHAIRMAN BERNANKE. Good morning. Why don't we resume our economic go-around? President Bullard, are you ready?

MR. BULLARD. I am, indeed, ready. Thank you, Mr. Chairman. On balance, economic conditions in the Eighth District have improved modestly since the previous FOMC meeting. Eighth District employment growth has been slightly stronger than that of the nation as a whole. Manufacturing activity in the District has increased. Retail sales, including autos, have improved. In addition, retailers are optimistic about summer sales. Most housing markets in the District have experienced an increase in home sales. All report a significant increase in new private building permits. Commercial and industrial real estate markets continue to be weak, and contacts report that commercial and industrial construction is not expected to pick up until 2011. Leading transportation firms in the District continue to report that business activity is improving, and, in some cases, the improvement is very robust.

The U.S. economy as a whole appears to have expanded modestly over the intermeeting period. Although the May employment report was unexpectedly weak, it was still positive in some respects. This certainly bears careful monitoring, but this report is just one month's number. Readings from outside the labor market have generally been stronger.

One of the key risks to the U.S. and global economic recovery is the sovereign debt crisis in Europe. My contacts in Europe during the intermeeting period were as nervous and pessimistic as I've ever experienced. In order for the sovereign debt crisis to derail the global recovery, it would have to morph into a global uncertainty shock on the order of the Lehman-AIG episode during the fall of 2008. A scenario like this is described on page 70 of the Tealbook. This could certainly happen. For example, countries could unilaterally withdraw

from the euro on the grounds that the Maastricht Treaty has been badly violated. This would be a major event with unpredictable consequences globally. In particular, if enough uncertainty were generated globally, the Asian recovery, which has been very strong, could be derailed, sending the global economy back into recession as it was in 2009.

I do not think this scenario will play out. The Europeans, despite the politics, remain firmly committed to the euro project. They have bought time for fiscal consolidation through the creation of new lending facilities. They also remain committed to backstopping their largest financial institutions, so contagion through that channel seems unlikely. For these reasons, I expect the effects on the U.S. to be more benign than the Tealbook baseline forecast. There are four key factors: U.S. equity prices, longer-dated Treasury yields, oil prices, and the dollar. U.S. equity prices declined precipitously during the intermeeting period, but I see this as temporary and subject to reversal if it becomes clear during the summer that the European sovereign debt crisis will remain in Europe. The flight-to-safety effect on U.S. Treasury yields, on the other hand, may be more persistent, as worries about the euro as a safe haven have increased dramatically and will subside only very slowly—so I see the positive effect through this channel as being more persistent. The dollar has strengthened against the euro, and this will also be a persistent effect, but I see the European trade channel as weaker and more uncertain for U.S. GDP. Oil prices will likely retrace somewhat, but may be subdued because of slower growth in parts of Europe.

Altogether I see muted downside risk for the U.S. outlook, barring a global uncertainty shock. The U.S. may even benefit as a bystander to the crisis, as it did during the Asian currency crisis, through the safe-haven effect. I would not count the crisis in Europe as a good reason to alter the course of monetary policy at this time, especially by suggesting that the Committee

might be more patient in moving policy away from its current extraordinarily easy stance. The more prudent course is to wait to see what the effects are in the U.S. during the summer and make a decision later in the year. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Hoenig.

MR. HOENIG. Thank you, Mr. Chairman. The Tenth District economy continues to expand at a steady, modest pace. According to reports on our retail sales, spending is continuing to grow modestly, although our auto dealers are reporting some pretty strong increases in sales. Our energy activity is expanding, and there has been a pretty significant oil play found in southeastern Wyoming that's creating a little bit of activity—we'll see how that develops as we go forward. Obviously, commercial real estate remains weak around the District, although we've seen some stability on the residential side, that is, some less negative news.

The manufacturing survey in our region shows continued expansion, but at a moderate pace. I have reported to you in the past some activity in farmland, and that continues. I will tell you that I've become a little more concerned—we got a call from one of our contacts who had gotten a call from another part of the country asking if there were any real good deals around "Wi-CHEE-tah," Kansas. Don, you and I know that is Wichita, Kansas. When they do that, I get real worried about where they're coming from. [Laughter].

On the whole, our District actually went into the recession a bit after the nation did, but it's coming out at about the same pace. So as I look at us and compare us to the nation, I'm pretty comfortable with the outlook. We've had almost a year of growth, and I expect that to continue over the course of the rest of this year and, I hope, into 2011. Thank you.

CHAIRMAN BERNANKE. Thank you. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. Economic conditions in the Ninth District continue to improve. Earlier in 2010, I reported to you that the prevailing attitude was one of waiting to see whether recent increases in demand were sustainable. There is much more confidence now that demand is back, especially among high-end consumers. Our business contracts reported that they had enjoyed outstanding months in March and April, including a large company that specializes in temporary hiring. However, there was some pullback in May. Shipping out of our main port, Duluth, is proceeding at a rapid pace. At the same time, inflationary pressures in the District seem minimal. Firms report only modest or limited movements in import prices.

In terms of the national economy, my point forecast has changed little since April. I expect GDP to grow at roughly 3½ percent over the next two years and inflation to remain low—around 1 percent during the coming year—but then to bump up to average around 2 percent in 2011 and 2012. However, the level of uncertainty around my forecast has increased since the last FOMC meeting. In terms of output, as the Tealbook points out, a European financial crisis could adversely affect growth outcomes in the United States. Along those lines, I was glad to see reports of a planned stress test of the large European financial institutions. I believe that this exercise will do much to reduce the likelihood and severity of a European financial crisis if the exercise is performed in an appropriate fashion.

In terms of inflation, I remain concerned about the upside risks associated with increases in the United States debt and deficit. But the recent low realizations of inflation have also led me to be concerned about downside risk. As is conventional, the forecast in Tealbook, Book A, assumes that the FOMC responds to undesirably low realizations of inflation by keeping the fed funds rate at zero for an even longer period of time.

Both in our models and in the data, inflation and interest rates are actually tightly positively related over the longer run. So the Tealbook's policy rule has the potential to generate a multiyear deflation, or liquidity trap, in which inflation is low or even negative for many years and the fed funds rate is stuck at zero. This idea that conventional monetary policy can generate self-fulfilling inflations at the zero lower bound goes back to the work of Benhabib, Schmitt-Grohé, and Uribe about a decade ago. President Bullard referred specifically to this risk in the two-headed dragon speech that he gave to the AEA in early 2009. As he pointed out there, the history of Japan since the 1990s indicates that this possibility may be more than a purely theoretical one. Now, at this point, these are just risks, and I think these risks seem to be under control, as longer-term inflationary expectations basically remain in a range consistent with our mandate.

In May, national unemployment was 9.7 percent, and private sector employment growth was small. Like that of the Tealbook, my outlook for national employment/unemployment is bleak. I do not see unemployment falling below 8 percent until after the end of 2011. Undoubtedly, some amount of unemployment corresponds to the existence of an output gap created by wage and price rigidities. However, I see at least two other important sources of high unemployment. Small businesses are typically an important source of job growth during recoveries, but limitations of their access to bank credit are constraining their ability to create jobs. In addition, businesses remain highly uncertain about the ultimate impact of health care reform and taxation on employee costs.

To summarize, over the next two years I anticipate a moderate recovery in output along with low but positive inflation. The European situation and the recent near-zero realizations of inflation have generated more uncertainty in my outlook. Unemployment is likely to be

unacceptably high for at least two to three years. My assessment of the root causes of unemployment implies that it may well continue to be high as the output gap associated with price and wage rigidities closes. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. The flow of data since the last meeting has been mixed at best, and, like the Tealbook and most forecasters, we've marked down our outlook for real activity a bit. But the changes in our projections haven't been as quite substantial as the Tealbook's. The case for a large slowdown in consumption—to below 3 percent for the rest of this year and barely over 3 percent next year—appears to lean heavily on the effects of credit constraints. My sense is that fluctuations in the degree to which consumers or small businesses feel credit constrained is driven predominantly by fluctuations in their own prospects rather than by variations in bank capital or other supply-side factors right now. So, while European developments have certainly heightened real and financial uncertainty and should not be taken lightly, it doesn't seem that likely to me that these developments will impinge much on the gradual improvement in credit conditions for U.S. households that seems to be under way.

Because, in my outlook, consumption growth doesn't slow quite as much as in the Tealbook, the accelerator mechanism implies stronger business investment growth. In addition, I think replacing and upgrading equipment in IT systems seems to be playing a very important role—investments driven by depreciation rather than by output, in a sense. So I see decent prospects for firms returning to investment plans that were put on hold before the recession.

Finally, I see a faster return of inflation to a trend between 1½ and 2 percent. Expectations have remained remarkably stable during the recession, despite the weighty burden

of a large output gap. If the recovery continues and becomes better established, I think expected trend inflation will exert a more powerful force on overall and core inflation.

My guarded optimism on the national economy is buttressed by the largely favorable information we've received lately about the Fifth District. Our manufacturing survey's overall index was down just slightly in June—from 26 to 23, still a very strong positive reading—and we've received reports from manufacturers in a wide array of sectors in the Fifth District noting rising orders, and port activity has been on a very distinct rise. Our services survey remained in positive territory as well, although retail remains a bit soft, and respondents to all of our surveys appear to be fairly upbeat on balance about the next six months. Government contractors in the D.C. area are showing particular strength—you can take that as a good sign or a bad sign, it's up to you. We've received anecdotal reports from around the District that are positive, including positive comments about labor markets. And, as summer gets under way, tourist numbers on the Carolina coast are up year over year. Most of the less sunny reports we've received involve commercial real estate in our District, which isn't doing so hot.

Overall the picture that emerges from the District is of broadening areas of positive momentum with some lingering weak patches. So my bottom line is that the recovery is likely to be sustained at about its current pace, even though the downside risks have increased somewhat.

Thank you.

CHAIRMAN BERNANKE. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Mr. Chairman. From my perspective, the major new development is that the risks to the outlook for economic growth are now skewed to the downside rather than the upside. In my mind this reflects two issues. First, the upside risk to growth that seemed somewhat possible a month or two ago seemed to have diminished. Much

faster growth would presumably have involved more rapid employment growth that would then boost incomes, leading to ever stronger consumption growth, which in turn would sustain greater payroll employment gains. However, the soft employment and consumption figures indicate that this positive multiplier story hasn't taken hold with any vigor. In addition, the boost from inventory restocking is getting a bit long in the tooth, and, hence, manufacturing output is likely not to keep rising much faster than final demand for much longer. So the upside risks that certainly seemed real even a month or two ago now seem to have faded.

Second, the European situation will likely depress U.S. economic activity through at least three channels: weaker final demand in Europe due to earlier fiscal consolidation; more trade drag for the U.S., given the depreciation of the euro versus the dollar; and tighter financial conditions due to greater risk aversion and worries about the European banking system. The good news, of course, is that the Europeans do seem to be muddling through. There is a large SPV in train that will backstop European government debt issuance, and, in the meantime, the ECB is buying the debt of peripheral countries to prevent sovereign interest rates from rising sharply, and the euro zone has announced a bank stress test for their largest banking institutions. The bad news is that there's still considerable room for things to go wrong. This could range from further market disruptions to political problems—for example, some governments could balk at the fiscal consolidation demanded by markets, or other governments could balk at the level of assistance that they need to provide to keep the euro zone intact.

Although I'm generally heartened by the decision of the Europeans to do a bank stress test, as we know all too well, the devil is in the details. The test has to be sufficiently stressful and the results need to be disclosed in a sufficiently transparent fashion to allow market

participants to assess and judge the credibility of the exercise. So the proof of the pudding will be in what the results are and how they're disclosed to the market.

The bottom line for me is that growth is likely to be moderate, with substantial risk to the downside at a time that inflation is already too low rather than too high. Given that outlook, I believe that our policy discussions need to become a bit more balanced than they have been over the last few months. We have spent a lot of time discussing how we might want to adjust policy in one direction, namely, exiting from our accommodative policy stance. It seems to me that we should be thinking just as hard about how to adjust in the other direction, that is, how we might want to escalate in terms of applying additional monetary policy stimulus. If downside risks to economic growth were to materialize, the risk of a debt deflation trap would become more serious. In that circumstance, what would we do to ease financial conditions? One option would be to reinvest maturing agency MBS proceeds. Another would be to engage in additional purchases of Treasury debt and/or agency MBS. I think the bar to the former should be relatively low, just reinvesting what matures, and the bar to further balance sheet expansion is probably pretty high, but I wouldn't rule that out as an option, either.

Let me end with two final thoughts that involve risk to the financial sector over time. At the last meeting I talked about the risk that passage of the regulatory reform bill could lead the rating agencies to cut their ratings for some of our major banks. As you may recall, the credit rating agencies were arguing that, by constraining the ability of the government to aid troubled banks, the legislation might lower the amount of support the banks get in their ratings from the government backstop. Well, fortunately there has been some welcome news on this front. Since the last meeting, Moody's and S&P have indicated that they do not plan to do anything quickly. It doesn't mean that it might not happen over time, but it's not going to happen right away. So

the risk that, once the legislation is signed into law, it will be immediately followed by credit rating cuts of major U.S. financial institutions has diminished sharply since the last meeting.

The second thing I think worth mentioning is what is happening in Basel regarding the capital adequacy requirements for banks. This is going to play out over the next six months, I hope, if we can actually get an international agreement. Our very early analysis here is that making U.S. financial institutions sufficiently robust could require considerably more capital and higher quality capital for some of them. If such requirements were phased in over a long period of time, say, five years or so, it probably wouldn't be a big problem for the large U.S. banks, assuming we had a sustained economic recovery. Retained earnings should allow most institutions to build capital so they can reach the new requirements at the end of a relatively long transition period without great difficulty. However, there's a risk, because market participants think that the U.S. banks already have plenty of capital. So there's a potential announcement effect if all of a sudden people hear that the large U.S. financial institutions need to raise quite a bit more capital—it could be a bit of a shock to the market. So I'd say we should keep that in mind as another potential risk. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Ironically, if we're serious about too-big-to-fail, at some point we hope that some institutions do get downgraded, right? So that shows that it's a market—

VICE CHAIRMAN DUDLEY. It's like St. Augustine—"...but not just now."

CHAIRMAN BERNANKE. Yes, I understand that. Okay. Governor Kohn.

MR. KOHN. Thank you, Mr. Chairman. In what I trust really is my final FOMC meeting [laughter], I find myself situated pretty much in the central tendency of the Committee's projections and in agreement with the general tone and assessment I've heard around the table

yesterday and today. The incoming data continue to be consistent with moderate expansion in the 3 to 4 percent range that we've averaged since the middle of 2009. There are no real signs of substantial strengthening or weakening from that pace, and the story of private final demand taking over from the inventory cycle and fiscal impetus still appears to be intact in the most recent data.

The gradual pace of recovery from the very deep recession is quite striking, given the degree of fiscal and monetary stimulus that has been applied. I think that, to date, there's no sign that the impediments to more rapid growth that we've been citing over the past months and quarters are abating any faster than we had been expecting. Confidence is rising slowly from a low level. Uncertainty about sales and about tax and regulatory environment are holding back business spending. Balance sheet repair in the household sector is dampening borrowing and spending. Bank credit continues to be extraordinarily weak. While bank credit supply is no longer tightening, it is likely to ease slowly as bank capital is rebuilt, loan losses top out, and banks begin to adapt to those much more stringent capital and liquidity requirements Bill was just talking about. The housing market continues to face an overhang of available supply. But with the gradual easing in these restraints, I have economic growth picking up to 4½ percent by 2012 with a 7¼ percent unemployment rate at the end of that year. Regarding inflation, substantial margins of slack and associated highly competitive conditions in labor and product markets have meant that, even as the economy has begun to recover, inflation has continued to decline, with deceleration across a broad array of categories.

As many of you have remarked, the important change over the intermeeting period is the deteriorating situation in Europe. In response, I marked down my expected GDP growth a

little—not as much as the staff did—and raised my projection of the path of the unemployment rate, which now falls even more slowly than it did in my April projection.

Importantly, the intermeeting developments led me, like many of you, to perceive greater uncertainty and downside risks even to this very gradual upturn in activity. I think we've had a demonstration that financial markets remain very volatile and sensitive, with a bias toward rapid and marked flight from risk. I think this partly reflects fresh memories of the fall of 2008. We've also seen a demonstration that, in an integrated economic and financial environment, we are vulnerable to problems abroad. In this respect, I differ a bit from President Bullard's analysis that they might, in some sense, benefit us. I think we're especially vulnerable and tend to be more impacted by negative shocks from abroad because the flight to safety raises the dollar exchange rate, but it hasn't really damped the cost of capital for many private borrowers outside the mortgage market—corporations are paying more, LIBOR goes up, and a lot of rates on bank loans go up. So the weaker outlook and greater uncertainty have increased the cost of capital and appreciated the dollar. And, Jim, I remember that that's what happened in the fall of 1998—I don't recall that we benefited from the Asian crisis; we actually had to ease policy a bit when that happened. In addition, pressures for fiscal consolidation have increased globally, with greater near-term downside implications for activity. And, most dangerous, as a number of you, the Vice Chairman, in particular, have pointed out, are the risks of a spillover from sovereign risk to the banking sector in Europe and the rather substantial exposure of U.S. lenders, including money market funds, to those banks. There have been some constructive steps in the past few days, including a commitment to transparent stress tests in Europe—provided that they're carried out, as President Kocherlakota said, in a reasonable way—and a more flexible yuan, which, I think, is a positive development. So my forecast is based on the Europeans finding a way

through this situation that maintains stability and rebuilds confidence, but the vulnerabilities all seem tilted in one direction.

Like many of you, I also marked down my inflation forecasts based on incoming data confirming a downward trend to core, lower energy prices that will feed through to headline inflation, the rise in the dollar and its effect on import prices, and slightly greater slack in my forecast. I have assumed that expectations remain anchored, but I suspect I'm putting a little more emphasis on slack than some other participants, because my inflation forecasts are at the lower end of or even a smidge below the central tendencies, while my activity forecast is at the upper end of the central tendencies. This weight on slack seems consistent with the marked deceleration in compensation inflation on balance over the past year, even as inflation expectations remain anchored. I had headline inflation staying at about 1 percent for the next three years.

I see downside risks on the inflation front as well. The main risk is that expectations will begin to adjust down after what will be several years—three, four years—of very low headline inflation, if I'm right. An unanchoring of inflation expectations on the downside would threaten a potentially adverse dynamic of rising real interest rates and declining inflation at levels well below the Committee members' long-term objectives.

So, like most of you, I see a long, slow climb out of a very deep hole, with inflation running well below our objectives for a number of years and downside risks around that forecast. We will be falling well short of our dual mandate for the foreseeable future. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Warsh.

MR. WARSH. Thank you, Mr. Chairman. I'm glad Governor Kohn can end on such a gleeful note. [Laughter]

MR. KOHN. It's your problem now. Over to you.

MR. WARSH. Amid these bouts of financial turmoil, mixed data, and new questions about the future of the European project, there are two questions that seem to rise above all others. First, is the real economy in the U.S. going to deliver on the promise of an effective handoff from government stimulus to self-sustaining private demand? Second, and no less consequential, as previewed yesterday, why isn't the Tealbook teal? [Laughter] One of these questions is unanswerable; the other merely unanswered. The trick will be deciding from the balance of my comments which is which.

First, on the economic forecast, at every FOMC meeting since last September, I've been saying that I feel a lot better about the next few quarters than the next few years. I'm afraid to report today that those few quarters are now over—we're now in the next few years. I am quite cautious about the path outlined even in the Tealbook. My own projections continue to be below the central tendency on GDP growth—I project a very moderate rate of growth, with a low level of output and very, very slow job creation. We have seen encouraging data on industrial production, but the idea of a “hockey stick” shape on our GDP forecast seems overly hopeful to me. Let me highlight three concerns on the real side of the economy.

The first is business spending. I am less confident that anticipated double-digit growth in equipment and software spending will make the necessary contributions to GDP to make the Tealbook forecast a reality. It strikes me that this business spending is a critical linchpin to these forecasts, and I worry that large corporations will not readily redeploy their large excess cash cushions into new cap-ex. For whatever reason, whether it be the new volatility in financial

markets, memories of what's transpired in the last couple of years, or concerns about uncertainty in the rules of the game, there's very little impetus for these guys to get on their front foot and to step up their cap-ex budgets. I think that that would be great news if it happened, but it's not obvious to me it will.

Second, on the employment front, the growth in average hourly earnings and hours worked could well be an indicator that job creation is "on the come," but it could indicate instead that structural unemployment will prove more persistent and that those who are not gainfully employed might find themselves in the wrong bucket here for quite some time. I'm concerned that small companies without access to the capital markets will not get into the game with any kind of force and will not help drive an employment rebound. I think the divergence between the ISM surveys and the NFIB surveys are as pronounced as I have ever witnessed, and I think they are capturing something real about the differences in views between large and small businesses.

Third, as raised quite, quite well by the alternative simulation in the Tealbook, I'm concerned that potential growth is lower and the NAIRU is higher than the staff's forecast.

Let me turn now to the financial markets, which, I think, pose further downside risks. The Tealbook, like many forecasts in the financial markets, suggests that the financial repair process steadily continues. It strikes me that this is a large and uncertain assumption over the course of the next few quarters. If the financial market repair process is halting, it could have significant implications for global economic growth.

Let me highlight some of the risks within the financial markets. The first is institutional investors—they strike me as lurching, not searching, for a new equilibrium. I think Don rightly pointed out that, on any given day on any given week, we see institutional investors risking and de-risking at the faintest sign of news. This is not an encouraging development, and I think the

remarkably high correlations we're seeing across asset classes globally should give us pause about how durably the financial market repair process continues.

Second, retail investors appear to be stepping back from the equity markets with even greater force than during the panic of 2008. They're showing fear of getting back into these markets. This might be fleeting—it may be that they are scared now, but when the equity markets turn again, they won't be able to help themselves and will just say, "if there's only one more bubble, let me ride it." But I think that the retail investor behavior over the course of the last month is striking, even more so than we saw in the darkest days of the crisis. Because asset prices haven't moved in aggregate much from their peaks—perhaps down 10 percent from their peaks of four or six weeks ago—I think many of those retail investors have just decided this is not a fair game, and they are going to exit these markets. That is a disturbing trend that I think has some very real consequences if it plays out.

The third concern regarding the financial markets are U.S. financial firms themselves. I think they are likely to report second-quarter profits that are below expectations and meaningfully so. If you look over the course of the last couple of weeks as we get to the end of the second quarter, analysts' estimates for big banks' profits have come down, but I don't think they've come down as far as will be realized. I think we will see big banks trying to talk down their numbers before they announce second-quarter profits in the third week of this upcoming month. That could well be a surprise, and I think the implications for bank capital and for bank businesses could be quite discomfoting. Even our relatively strong banks have had a reasonably tough time funding themselves on an unsecured basis in three-, five-, and ten-year terms, and that's a development that should give us all some concern, reminding us of some pretty tough periods behind us.

Fourth, I think we're seeing volatility of volatility—a second derivative phenomenon. Tying the financial markets back to the real economy, this volatility makes me concerned about the resilience of the production improvements we've seen and the hoped for improvements in business fixed investment over the course of the next year.

Finally, I'll mention the financial architecture. I think there's this expectation, however misplaced, that, once the regulatory reform bill gets to the Rose Garden, there will be clarity in the financial architecture, and, in particular, clarity on the rules of the road. But that's not even the end of the beginning. Many of these questions are going to be punted to us and other regulators, both in the U.S. and across the globe, and I'm not sure markets fully anticipate how much uncertainty will remain.

So, while I've been of the view that the financial market improvements over the last year have been helping the real side of the economy, I suspect that they will no longer be as convincingly useful to get the real economy to go forward.

Let me turn finally to the euro zone. Many of us reasonably anticipated the problems in Europe for several months, and I think the situation there remains very, very unsettled. Even if Europe can muddle through the summer, it is still an open question whether the politics in Europe will allow the political leaders to “double down” on the commitments that they have made over the course of the last month. European leaders are going to have probably their most consequential meeting in October, at which they're going to revisit commitments and evaluate financial markets. In September, before they go into those October meetings of the European Council members, they'll all be putting out their proposals. I don't know whether the politics in the stronger countries in Europe will permit their leaders in very uneasy coalitions to say as robustly and squarely as many markets would wish that they stand completely behind their

commitments; that is, their taxpayers will be bailing out those who, in the eyes of the political masters, are less deserving. It's possible that, as the economies in Europe diverge in the forecast period, countries like Germany will be able to export their way into some GDP successes and bring down their unemployment rates a bit, and this could lead to tensions within the euro zone where some of the competitors look at that and say, "I'm not getting any of those improvements." Does that delta in their real economies make coherence and convergence on policy more difficult or less? I think the European problems are very serious. Markets appear to me willing to continue to test perceived weakness, to test ambiguity. Going through the summer and into the fall, I think markets are going to be parsing the words of politicians across the continent and will be wondering whether the commitments they've made are going to hold true.

Finally, just a brief word on inflation prospects as measured. Near-term indicators, as everyone has discussed, appear quite benign—there's a little risk of near-term price increases. Import prices appear to be tame. But, unlike some who are now more concerned about deflation risks, I do see differences in prices across countries and across particular commodities, as an example. It doesn't seem to me as though we are all that close to a downward price spiral, with falling prices begetting further price falls and constituting anything like deflation. It looks to me as though many of these prices are responding to real developments. Inflation expectations continue to be anchored, and that's a subject that still bears careful watching, but I haven't changed my views on inflation prospects dramatically. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Duke.

MS. DUKE. Thank you, Mr. Chairman. Interestingly, while conditions in financial markets deteriorated, conditions in the banking system and, specifically, the outlook for credit continued to improve. Delinquency rates appear to have peaked in all loan categories except

commercial real estate, and even there the rate of growth is slowing. The growth in classified assets is leveling off, both in the shared national credit portfolio and in the top 50 banks. Growth in the number of banks and of bank assets on the FDIC problem list is also slowing. Banks are also reporting that credit performance is both better than in the recent past and better than they expected, and they report fewer questions on asset quality in their investor presentations.

There's still plenty to be done to work through the remaining problem credits, but, at the highest levels, bank management has moved on to other concerns, specifically, loan growth. Every banker I spoke with talked about the difficulty of finding enough quality credits. They're worried about having enough earning assets to sustain their earnings going forward, and a number reported strong emphasis on developing programs and products to stimulate demand. They're especially interested in high-quality C&I loans and consumer loans. Most are reporting that the new lending that they are doing is more likely to be a loan taken from somebody else than a new credit request. They're very high quality, but as competition heats up, the spreads are not as wide as they were, and terms are easing a bit. Indeed, the unusually high spreads for C&I loans seem to have peaked even for smaller loans.

The exception in terms of competition for new loans is in commercial real estate loans. Banks that have room for additional real estate lending report that they are able to cherry-pick higher-quality deals at good profitability from banks that have pulled back completely from the product. With respect to real estate lending, I am more and more convinced that we will see recovery in the commercial mortgage market faster and maybe even sooner than recovery in the residential mortgage market. Moreover, even though delinquency rates are still rising on commercial mortgages, I expect that the ultimate charge-off rate will be considerably lower on commercial mortgages than on residential mortgages.

When talking about CRE credit, it's important to distinguish between commercial mortgages (or nonfarm, nonresidential properties for existing owner-occupied or income-producing real estate) and construction loans. So far, the charge-off rates in 2009 on nonfarm, nonresidential mortgages ran about 1 percent, which is actually just half of the 2 percent charge-off rate on residential mortgages or C&I loans and a fraction of the more than 5 percent charge-off rate on construction loans.

Guidance covering CRE workout seems to be helping as restructurings are taking place. Pools of money that were raised in anticipation of an RTC-like dumping of commercial assets are coming to the point where they have to buy something or return the money. So banks report good liquidity and multiple offers for stressed assets, with pricing at or better than their marks. At the same time, commercial real estate fundamentals are improving as capitalization rates come down and occupancy and rental rates stabilize. Bankers expect conditions to continue to improve slowly as long as we don't have either another leg up in unemployment or a spike in interest rates.

In contrast, after more than two years of trying to modify delinquent residential mortgages through HOPE NOW, HOPE for Homeowners, and HAMP, we are still faced with a growing pile of delinquent mortgages. The flow of new mortgages into early-stage buckets is slowing, but the rate of exit through pure successful modification or foreclosure is painfully slow. According to the April HAMP report, roughly 6 million mortgages are 60 days or more past due. Of these, 1.7 million are estimated to be eligible for HAMP modification, and there are only 340,000 active mortgage modifications. Furthermore, one large servicer reported a 40 percent re-default rate after four months on permanent modifications. There are only so many times you can go to the same delinquent borrowers with a new offer, and each offer seems to

find a lower success rate. Therefore, many are just going to have to be resolved through foreclosure. Average foreclosure time lines are running a year and a half to get the property and another six months to sell it. Combining the high loss rates on residential construction loans and this backlog of delinquent mortgages, it looks like recovery in the housing and mortgage market could be measured in years, especially in places like Florida and Arizona, where the delinquency rate is now higher than 20 percent.

I asked staff to look at the length of time it took for the level of credit outstanding to recover after other recessions. They found that this cycle is currently tracking the 1990-1991 recession. In that one, measuring from trough to trough on an inflation-adjusted basis, it took five and a half years for residential and nearly nine years for commercial to recover.

Also on the minds of bankers are regulatory reform, capital and liquidity proposals coming out of work on the Basel III accord, and the recent FASB exposure draft on mark-to-market accounting. The FASB proposal is viewed by all as the biggest threat. From the largest to the smallest banks, they uniformly felt that it spelled the end of commercial banking or, at the very least, the end of fixed-rate lending and small business lending. One bank likened the FASB proposal to a terrorist with a nuclear bomb saying, “You knew how bad it would be, but you didn’t really think he was going to use it.”

The Basel III work and the Collins amendment have most banks focused on the allowable elements of capital as well as on their capital levels. Most of the bankers already believe that they have more than enough capital to weather the losses in their portfolios, and many of the smallest banks are unshakable in their belief that capital standards have already been raised. Those that are raising capital are trying to keep as much optionality in it as possible. I asked bankers what sort of returns they would expect to have in the future and what they would need to

attract investors. They thought that returns on assets would settle out in the 1 to 1.2 percent range, and that 12½ percent was the minimum return on equity it would take to attract capital, which means they would need leverage of at least 10 to 12 times equity to continue to attract the capital.

All found something to worry about in the regulatory reform bill, but what that was depended on the bank and the business model. Larger banks talked about operational issues, loss of income, and service reductions, as they adjusted to new rules, but it was mostly transitional; over the longer term, they seemed confident they could deal with any of the proposed changes. For many of the smaller banks, the proposals seemed quite overwhelming. Many predicted that significantly more community banks would disappear as a result of regulatory reform than would be lost in bank failures. And some were planning to be either buyers or sellers in the eventual rollout. For the smaller banks, the problem has several dimensions. First of all, some don't have enough employees to deal with the sheer complexity of reading and implementing the new regulations. My memory is that FDICIA had 63 implementing regulations, and at the time I had 64 employees, so that sort of sizes the problem.

MR. TARULLO. A surplus of one.

MS. DUKE. And that was if the courier did a good job on his side.

In addition, there's complete reliance on vendors to make the changes that are needed for compliance. Community banks view their advantage as the ability to customize products, while larger bankers stay inside the box, and the new regulations just seemed to tighten the box. One fourth generation CEO of a \$50 million family-owned bank said she described it to her father as trying to make it on an 80-acre family farm—just not enough scale or resources.

In summary, we seem to be beyond the point where credit quality concerns will restrict recovery, but uncertainty about regulation and capital requirements is taking its place. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Tarullo.

MR. TARULLO. Thank you. For me, the intermeeting period has largely been a tale of the tail. A look at real economic data suggests some slowing, though not a sharp break with the pattern of recovery whose pace continues to be limited by the housing problems and balance sheet repairs that are the legacy of the financial crisis. But as many of you have already suggested, a glance at financial indicators and conversations with market participants tell a different story, one of sharply renewed vulnerabilities and an associated flight to quality arising directly from the debt problems of the euro zone periphery and, more generally, from the long-term fiscal predicaments of many in the group of countries that we've traditionally called the advanced economies.

Nonfinancial data over the last seven weeks are largely consistent with what has become a reasonably well established but not particularly robust recovery. As noted in the staff briefing, consumer spending, manufacturing, and investment in equipment and software remain solid. But other indicators are not so favorable, and it seems less clear that self-sustaining economic activity will fully replace the waning effects of stimulus and inventory replenishment. As evidenced by releases of the last two mornings, housing captures the broader picture well, both in that we do not see a run of more than a few good data points before less encouraging reports appear and in that there has been less good news lately.

With respect to employment, there is, to be sure, still some reason to be hopeful about the jobs picture, notably increases in hours worked and some preliminary information suggesting

that any structural unemployment by-products of the recession may be limited. But we've had hopeful signs for some time now, and they've translated into decent private sector job growth in only two months thus far. Looking at projections that Bill distributed yesterday, the FOMC as a whole expects that unemployment two and a half years from now will still be a couple of percentage points above what we consider the long-run trend.

Now to the tail: Euro zone periphery problems have created obvious stresses, as revealed most palpably in the financial data presented by Nellie yesterday. The uncertainty that results has been increased by continued disjointed policy response and communication problems among European policymakers. Owing to the awkward structure of its economic policymaking, this awkwardness, I think, has been reflected in both the continued lack of elaboration on some particulars of how the SPV will function and, as many of you have noted, in continuing and recurring questions surrounding the bank stress test exercise. A number of observers here and in Europe note that each time European policymakers take a leap ahead of the curve, they get bogged down in the challenges of coordinating the implementation of their initiatives, and they risk falling behind that curve once again. It's possible to muddle through sovereign debt and banking sector problems, but history suggests that a failure to get ahead of these problems will often lead to grief.

The uncertainties associated with the immediate risks of the sovereign debt and associated banking problems are bad enough. Then we have the view, which I've heard from a number of market participants, that virtually any policy chosen in Europe will be a bad one. Credible fiscal consolidation will be good for reassuring the financial system but, quite possibly, bad for economic growth. Failure to move forward on credible fiscal consolidation may be helpful in the short term but will compound the medium-term problems and, quite possibly, lead

to a steepening of yield curves sooner rather than later. Finding the right balance and timing of policies will obviously be a challenge, not to mention the coordination difficulties.

In terms of my own expectations, starting with my modal expectation, the effect of the euro zone problems on risk aversion, exports, and equity values will be only partially offset by lower Treasury rates and commodity prices. This expectation led me to pare somewhat my projections for GDP growth in the remainder of this year and 2011, though not as much as the Tealbook, and that's in part because I never expected growth as high as the Greenbook had foreseen before its recent change of hue. My modal forecast is not too optimistic to begin with. Add to that the tail risk of a financial event in Europe—and I think we can have a disruptive financial event that falls short of a full-blown crisis—and we see at least some potential for renewed asset value and credit strains in the United States with a resulting significant negative effect on economic performance. So here's hoping the tail doesn't wag the dog. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you, and thanks to everyone. Let me make a stab at trying to summarize the conversation around the table. Intermeeting data were generally mixed, and financial conditions became less supportive, largely as a result of uncertainties about European sovereign debt and the ramifications of a possible default on the European periphery. Most participants, however, continued to expect a moderate recovery into next year, although downside risks to growth have increased somewhat. The labor market is recovering, but painfully slowly, reflecting the moderate pace of output growth. The inventory correction is no longer providing significant support to the recovery, and, although private final demands seems to have picked up the baton, the strength and certain components of final demand may prove transitory. Inflation remains low and trending down. Inflation expectations appear stable, and

commodity prices are moderating. Medium-term risks to inflation, to both the upside and the downside, remain, although, on net, economic developments and incoming data led inflation risk to shift toward the downside over the intermeeting period.

Household spending has been moderately strong, supported by income growth and a modest improvement in confidence. However, recent reports are mixed, and continued labor market weakness could weigh on confidence, income, and spending going forward. Declines in equity and housing wealth are another potential drag on consumption growth.

In the labor market, data on new hires and UI claims were disappointing, except for the temporary boost provided by Census hiring. Employers thus far have added hours more through increases in workweeks and overtime than by adding employees. Possibly these increases in hours may lead to more hiring in the near future, as suggested by increases in temp hiring. But employer pensiveness about the economic and policy environment is also likely playing a role in the slow hiring pace. The staff predicts low productivity growth from here, but productivity growth more in line with recent expansions, though good in the long run, could translate into weaker, short-term employment gains. Long-term unemployment represents a serious problem with potential longer-term implications for skills, social networks, and labor market attachment.

Housing demand has been up in some areas but looks to be weaker in the near term, with starts and sales down, in part reflecting a withdrawal of federal tax credits for homebuyers as well as tight credit. Home prices are flat to down with the overhang of available supply a drag on prices in many localities. Mortgage modification programs have not had as much success as hoped. Nonresidential construction remains at low levels, and banks' commercial real estate problems may worsen with the large volume of loans coming due in the near term. However, there have been indications of stabilization in commercial real estate fundamentals in prices.

Moreover, funding is available for stronger CRE deals on conservative terms, and some grounds for optimism on CRE performance exist.

In financial markets, concerns about Europe and perhaps about financial regulatory reform, new capital standards, and accounting changes have increased jitteriness and reduced investors' appetite for risk. Correlations across asset classes are high. Lower stock prices, the stronger dollar, and somewhat tighter corporate credit are negatives for U.S. economic growth, although lower oil prices and lower Treasury yields are a partial offset. The European bank stress test may help the situation. However, the European situation remains a tail risk, albeit a low probability one. Conditions have improved recently, as confidence that Europe will muddle through has increased. Credit losses and delinquencies at banks may have peaked, and many banks are looking to make loans again, though, from their perspective, the supply of creditworthy borrowers appears very limited. Bank profits have been better recently but could well slow and face a number of downside risks, including the effects of the financial reform package.

In the nonfinancial sector, industrial production has continued to expand. The prospects for foreign demand weakened over the intermeeting period because of a weaker Europe and a weaker euro, and net exports are not expected to provide much of an impetus to U.S. economic growth. Firms' investments are focused on replacement and maintenance. With considerable uncertainty, they have limited interest in investing for expansion. Equipment and software investment, though recently strong, seems likely to slow. Firms are cautious, concerned about random refereeing by policymakers, and consequently are focusing on blocking and tackling.

MR. FISHER. Nagurski.

CHAIRMAN BERNANKE. Bronko Nagurski makes an appearance in the remarks.

Caution is reflected in the large cash hoards held by corporations, which, in turn, are being devoted more to dividends and share buybacks than to expansion.

The Gulf oil spill, which so far has had relatively minor direct economic effects, is also weighing on household and business attitudes. However, several sectors show strength, such as manufacturing, including autos and steel, energy, temporary help, transportation, including shipping and airline business travel, tourism, and agriculture. Firms continue to pursue productivity gains and cost savings. Small businesses face credit constraints arising from the weaker economy and declines in collateral values, which have the potential to constrain their expansion and hiring.

In the area of fiscal policy, ongoing support from federal stimulus is being partially offset by constrained budgets at the state and local level, and fiscal austerity abroad may dampen global growth.

Core inflation has slowed, and overall inflation has also been tame, as the prices of globally traded commodities have moderated. Inflation as measured by median or trimmed mean indicators has also slowed. Inflation expectations appear well anchored, at least for now, although that cannot be assumed indefinitely. Firms have seen reduced cost pressures as slack remains high, and, with few exceptions they are not able to pass on cost increases. Expectations about future prices received have generally declined. The stronger dollar also will have some disinflationary effect, and labor cost pressures remain largely absent. Generally, concerns about disinflation, or even deflation, have increased somewhat in the Committee, though medium-term risks to inflation remain, depending in part on the nimbleness of monetary policy, fiscal developments, and the pace of economic growth.

Those are some summary comments. Any reactions? [No response.] Seeing none, let me just add a few thoughts on a number of different topics. I'm going to range a bit more widely than usual today.

On the economy, I agree with the overall tone that we've heard around the table. The intermeeting data were somewhat mixed or slightly negative, and combining that with the European situation leads to both a somewhat worse modal forecast as well as greater downside risks. Examples of the mixed data include employment, where we saw, on the one hand, low job creation and high UI claims, and, on the other hand, increases in hours and labor income. So the general view that the labor market is recovering only very slowly obviously remains intact. Some other mixed reports included retail sales, housing starts, and foreign trade. Each of these areas suggests potential problems going forward.

In the consumption area, despite the retail sales numbers, the data have been reasonably strong. Again, there are some mixed reports. One interesting development is that there does seem to be progress in deleveraging by households. The flip side of that is that much of this deleveraging is occurring through default and delinquency, which is not a good sign for future credit availability, though it does free up some income for spending. One of the major factors cited by the staff, of course, is the wealth effect associated with the stock market and housing prices. So I think consumption remains an open question. It has been fairly strong. Clearly, continued moderate expansion is going to require that consumers remain sufficiently confident.

I do have a concern that some of the other components of final demand that have recently been strong may not remain strong. I'll give you three examples. The first is housing. Housing was a positive support for economic growth in the second quarter, but, with the withdrawal of the tax credit, it seems very likely that we are going to see very weak housing results over the next

few quarters. Moreover, a lot of the residential investment we saw in the second quarter was either real estate commissions driven by the tax credit, which is not going to be repeated, or home improvements, also driven by tax favoritism, which also has been withdrawn. So I think housing is going to continue to be a drag both on real activity and on financial conditions.

The second is equipment and software investment, which has also been fairly strong recently. Once again, I don't think it's going to persist at the recent pace. There's too much uncertainty. In addition, a lot of the equipment and software investment has been focused on maintenance and replacement, and, clearly, at some point those needs will be met.

Third, the fiscal components obviously are also going to be a drag on economic growth going forward, as federal support is withdrawn, as state and local fiscal conditions continue to be constraining, and as global fiscal austerity looms.

So, to sum up, I think the net effect both of the data and of the European developments, as many people have already discussed, is to reduce the mode and to increase the downside risks, unfortunately.

On the inflation front, there has been considerable discussion. I do think that upside risks to inflation are now very, very low. Certainly, we will always have to keep watching that situation, but there seems to be very little momentum in inflation. I had one small observation. In past meetings, we've discussed various components of the inflation indexes, understanding, of course, that overall inflation is what matters. But it struck me that the few areas where we were actually seeing price increases in the last couple of months were in public services, such as public transportation and education, where fiscal problems at the state and local level are causing increases in fees. This is not exactly the inflation that you would normally think of, but that does seem to be contributing a bit to the observed data. Similarly, it's the way excise taxes affected

tobacco prices earlier this year. So, again, my overall outlook on inflation is I think very consistent with what I heard around the table.

I did want to talk about a couple of other issues. First, very briefly, I want to say something about the labor market and the risk of hysteresis, that is, continued high unemployment associated with a permanent increase in the NAIRU, as opposed to a return to the NAIRU that existed before the recession. I think there are a lot of reasons to worry about a very slow recovery in the labor market, as many people have discussed. The sheer depth of the recession, obviously, takes us far away from full employment. Many people have noted the high rate of permanent job loss and the reduced reliance on temporary layoffs. Unemployment insurance, while understandable and socially necessary, clearly tends to extend unemployment. We have seen the uncertainties and the credit constraints which have led firms to focus on the intensive margin of hours and overtime rather than on new hires to meet their labor needs. We've noted some changes in job-finding rates, as reflected, for example, in the Beveridge curve, which has shifted somewhat adversely, as the staff discussed. There are issues associated with immigration, which was also discussed by the staff, related to underwater mortgages and perhaps just changes in behavior. And a number of people have noted that banking crises are often associated with very slow recovery. So I think there are a lot of reasons to be worried about a very slow recovery in employment. That being said, my view at this point—although I'm certainly open to new evidence and discussion—is that I am still sympathetic to the staff view that the NAIRU—or the natural rate, or however you want to describe it—has probably not permanently increased at this point. There will be a long period of recovery, but I think ultimately we will find ourselves back to something closer to the 5 to 5½ percent range.

The staff talked about some of the evidence for that yesterday, notably that there doesn't seem to be any greater dispersion geographically or by industry in terms of the flows of employees from one sector to another. The variability of growth across the geographic and industrial sectors is not unusual. And, indeed, if you think about some of the badly hit sectors, like construction, clearly they're well below their long-run sustainable levels, and we would expect to see considerable reemployment in those sectors, even if we don't get back to the levels that we had before the crisis. There are also some demographic factors. For example, a study from the Federal Reserve Bank of Chicago showed that the duration of unemployment increases with the age of the worker; nevertheless, the worker ultimately tends to find work.

I think the most interesting evidence—and it was not discussed by the staff—about the issue has to do with outflow patterns of unemployment, that is, people who move from unemployment either out of the labor force altogether or, obviously, into employment. I would recommend to you a paper by Elsby, Hobijn, and Şahin—the latter two are from the San Francisco and New York Federal Reserve Banks, respectively. Their paper looked in some detail at rates of outflows from unemployment as a function of starting conditions. They confirm that the rate of outflow from unemployment declines with duration; that is, people who are unemployed for a long time obviously have a lower probability of leaving unemployment and going into employment. However, that slope is very similar to past recessions, so there doesn't seem to be any structural shift in those reemployment probabilities conditional on the depth of the recession and on the extent of the period of unemployment. I also thought it was particularly interesting that they showed that the pace at which you leave unemployment does not depend on the industry from which you come; that is, unemployed construction workers are finding jobs at

the same rate as others in the overall economy, which I think is another piece of evidence against this permanent structural mismatch.

Finally, I'll mention one other piece of evidence that I found quite interesting. Although monthly outflow rates from unemployment, both at shorter-term and longer-term durations, are at record lows for the United States, the monthly outflow rate from unemployment in general is currently about triple the outflow rate of what Europe experienced in the 1980s, and, for the long-term unemployed, it's four times the rate in Europe in the 1980s. So even though it's very slow, it does appear that people are moving back into employment much more quickly than was the case in the classic European hysteresis episode of the 1980s.

I could make other points on this issue, and I think it's something we need to continue to watch. At this point, though, my own feeling about the labor market is that, while we're facing what could be a very slow and painful recovery, I think there's reason to hope that at the end of this process we'll be back to something closer to where we were when we began. Obviously, that has implications for our policy discussions, and we can revisit that as we go forward.

Taking advantage of your patience, I'd like to talk about one other issue, which the Vice Chairman raised, namely, the question of the symmetry of more versus less stimulus at this point. Now, clearly, we have been focusing over the last year or so on exit. I think that continues to be appropriate. But you have to concede that, if you look at the projections that we have all put together for this meeting, they pretty clearly show that almost everyone thinks that unemployment will be above our target and inflation below our target for a number of years. So I think there's a reasonable question about why we aren't looking to try to expand from here. Why aren't we trying to become more supportive of the economy rather than less? Indeed, if you look at almost any kind of model-based analysis—take a standard Taylor rule, an optimal

control exercise, or a micro-founded model, and I would cite the paper by Justiniano and Primiceri from the Federal Reserve Bank of Chicago—they suggest that our policy right now should be a negative nominal interest rate of about 3 or 4 percent. Former Fed staffer Joe Gagnon has also raised these questions; why aren't we at least symmetrically talking about further expansion, why are we still only talking about the exit?

My own view is that, while further expansion is certainly a possible option and one that we need to keep alive, the bar for doing so should be reasonably high. Let me try to explain why I think that's so. The point of my raising this is not so much to persuade you about anything in particular, but rather to put this on the table, because we haven't talked about it. And I would be interested in hearing, at this meeting or in subsequent meetings, your views on this issue.

One line of argument against further expansion is that the output gap might be smaller than we think or that we can't measure the output gap—those are reasonable points based on Orphanides's work, and so on. But I would note that everyone seems to think that inflation is not going to be rising, so implicitly in your forecast is the view—again—that economic growth is not in some sense too fast over the next two to three years. Putting that aside, then we have to ask what the effects of additional stimulus would be. In thinking about this issue, it might be useful to start with a more familiar type of policy, which is fiscal policy, where we're seeing the same phenomenon. I think we understand fiscal policy better in this particular set of circumstances than we do monetary policy. So the question is: Why isn't the United States, for example, engaging in another large fiscal stimulus package, as some people would advocate? Again, that's something that should be open for discussion, but I think an appropriate characterization would be that there are unknown benefits and, perhaps, diminishing marginal returns to such an action, and there are large and very hard to anticipate risks associated with such an action.

Ideally, theoretically, a fiscal expansion would involve a very sharp increase in spending today, accompanied by a credible exit and a credible rebalancing of our fiscal position in the medium term. In fact, I have advocated something like that in my testimony, as the approach that we should be trying to take. But I think anybody seriously thinking about this has to recognize that that's very hard to execute, because the increase in spending is today, while the decline in spending, or rebalancing of fiscal policy, is a future promise. So, on the one hand, you have a situation in which increased fiscal stimulus may have diminishing marginal returns—for example, you may have fewer shovel-ready projects available—but, on the other hand, you have quite a bit of uncertainty about what a large program would do to market expectations. For example, would it cause interest rates to jump? Would it cause inflation expectations to jump? Would it lead to financial instability? I don't know the answers to those questions, but I think that, as we try to balance the costs and benefits of a major fiscal expansion, we have to take into account that the risks of doing it are significant, and we don't have as much information as we would like about the implications for markets and expectations of such an action.

I raise this because the same kind of tradeoff applies to monetary expansion. Certainly, we could go back into large-scale asset purchases and purchase another trillion dollars of assets. And I don't think we should rule that out—I think there are circumstances in which we should consider additional expansion of our balance sheet. But the same kinds of tradeoffs apply at this point. On the benefits side, we already have interest rates extremely low, including longer-term interest rates and mortgage rates that are at record lows. So the question is: How much additional benefit will we get in terms of financial conditions from such a program? Then, on the side of the risks, of course, there's the risk of a sharp increase in inflation expectations, which

could raise nominal interest rates, which could cause capital losses for banks and other holders of securities, which could lead to financial instability, etc., etc.

I'm not raising all of these issues to provide a final conclusion. I just want to point out two things. One is that the logic of our projections suggests we should at least be keeping on the table not just exit but also additional stimulus. Second is an acknowledgement that there is an awful lot of uncertainty associated with either fiscal or monetary stimulus from this point. We'll need to continue to think about those risks and how we might manage them should we come to the point of having to take further steps.

Again, I thought it was worthwhile to put this on the table, because we haven't discussed it before. At least some people around the table have raised scenarios in which it might be necessary to take further actions, so I would invite research staffs around the System to give this issue more thought. Let me stop there. It's past 10:00, which means that I can ask Dave Stockton if he'd like to report on the housing data that came out this morning.

MR. STOCKTON.⁵ The housing data this morning were rather bleak. We received the report on new home sales, and it looks as if President Rosengren's turtle not only pulled in its head but also fell off the log. Sales fell about 32 percent to 300,000 units. We had expected, obviously, some decline, because we were anticipating a payback, but not one as steep as this. I think it probably suggests more of what we'd seen earlier this spring: The strength in sales and even the small uptick in starts were probably related to the tax credit. We had assumed that we would be marking down our forecast for sales and starts a bit going forward, taking some signal from that.

The good news, if you can put it that way, is that this sector is small enough now that a 30 percent decline is not a whole lot of GDP. In fact, if anything, we'd probably be looking at

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

less than 0.1 percentage point out of our third quarter forecast from those lower sales, so it isn't a whole lot.

CHAIRMAN BERNANKE. Okay. Thank you. Before we take a break, perhaps Brian would go ahead and give us the introduction to the policy go-round.

MR. MADIGAN.⁶ Thanks, Mr. Chairman. I'll be referring to the package labeled "Material for Briefing on Monetary Policy Alternatives." This package includes draft policy statements as they appeared in the Tealbook, the Tealbook table that summarizes the alternatives, and draft directives.

As Bill English noted yesterday, your projections for this round indicate that you generally see the economic expansion as likely to be a bit weaker and inflation a bit lower than you anticipated in April, a point reiterated by a number of you in the economic go-round. In these circumstances, you might be inclined to provide more monetary accommodation to boost growth, limit the extent to which inflation moves further below levels that would be consistent with your dual mandate over the longer term, and trim the downside risks to growth and inflation. Of course, with the federal funds rate at zero, the Committee cannot provide further stimulus through conventional channels. However, as in alternative A, page 3, the Committee might wish to use the Federal Reserve's balance sheet and policy communications to increase stimulus. Under this alternative, the Committee would use the prepayments of principal received on the System Account's holdings of mortgage-backed securities to purchase additional MBS rather than continuing to allow the MBS to run off. This new practice, in combination with the Committee's current practice of rolling over maturing Treasury securities, would keep the System's holdings of Treasuries and MBS essentially flat. As a consequence, the market would be left holding less duration and convexity risk than if the Committee maintained its existing MBS policy.

Market participants appear not to expect any such change in the Committee's portfolio management practices, and thus some immediate decline in longer-term interest rates would be likely, as investors took account of the reduction in MBS supply to be held by the market. As drafted, the announcement would not specify how long the Committee planned to maintain the new policy under this alternative. The final sentence of the announcement would indicate only that "The Committee will continue to evaluate its holdings of securities in light of the evolving economic outlook and conditions in financial markets and will employ its policy tools as necessary to promote economic recovery and price stability." Market participants would presumably recognize that the new policy would not be maintained permanently. If they judged that it would be in place for about two years, we estimate that longer-term yields might fall about 10 basis points immediately, reflecting the

⁶ The materials used by Mr. Madigan are appended to this transcript (appendix 6).

direct effects of the anticipated lower trajectory of market holdings of longer-term securities.

To reinforce the decline in longer-term rates, under alternative A the Committee would also amplify its forward guidance for the federal funds rate. In the first sentence of paragraph 3, the Committee would indicate that it anticipates the specified conditions “will,” rather than “are likely to,” warrant exceptionally low levels of the federal funds rate for an extended period, and it would further state that it “expects to maintain the current range for the federal funds rate until resource utilization and underlying inflation are clearly moving toward rates consistent with the dual mandate.” This language would likely be interpreted by market participants as pointing to a longer period of very low short-term rates, which presumably would be reflected in some decline in intermediate- and longer-term interest rates beyond that attributable to the change in MBS reinvestment policy.

As a rationale for this policy choice, paragraph 1 of alternative A would note that economic activity has continued to strengthen, but only gradually, and that the labor market is improving, but only slowly. It would note that financial conditions have become less supportive of economic growth on balance, and it would also indicate explicitly that the near-term growth outlook has weakened somewhat. Finally, it would observe that underlying inflation has trended lower, and that inflation was likely to be quite subdued—below mandate-consistent levels—for some time. It does not refer to downside risks to economic growth or inflation.

The language in alternative B, page 4, is somewhat more upbeat. Paragraph 1 would indicate that the labor market is improving gradually. Like A, it would note that financial conditions have become less supportive of economic growth on balance, but it would not explicitly state that the growth outlook has weakened. In the inflation paragraph, the Committee would note that prices of energy and other commodities have declined somewhat in recent months and that underlying inflation has trended lower. It would reiterate essentially the same outlook for inflation that the Committee has put forth since last fall. The Committee would retain its existing forward guidance for the federal funds rate, paragraph 3, and would make no change to its portfolio management practices.

Even though you now see somewhat slower growth and greater downside risks than you did in April, you still might not be inclined to change your forward guidance or resume securities purchases. You might believe that the current language suitably expresses the conditionality in the Committee’s expectations for the federal funds rate and judge that the downward revision in investors’ policy expectations over the intermeeting period has appropriately reflected expected changes in the conditioning factors. Indeed, the declines in Treasury rates that have accompanied the lower anticipated trajectory for the federal funds rate should cushion the effects on the economy of the tightening of financial conditions resulting from lower equity prices and higher credit spreads.

And you might feel that a resumption of asset purchases is not warranted by recent developments. Even though the growth outlook has softened a little, almost all of you still see a gradual strengthening of the economic expansion and do not expect significant further disinflation. Moreover, with mortgage rates already very low and housing activity constrained by a range of non-interest-rate factors, you might be skeptical that a resumption of MBS purchases would have a significant stimulative effect. And you may be worried about the sorts of uncertainties that the Chairman cited—for example, adverse effects on inflation expectations that could be prompted by renewed MBS purchases. Indeed, you may believe that taking additional steps to reduce holdings of longer-term securities will be warranted at some point, but believe that the downside risks have increased sufficiently of late that the Committee should take no action today that would tighten financial conditions. And you may think, as discussed by the Committee yesterday, that it would be appropriate to defer any announcement of a possible change in portfolio management practices until this possibility has been explained more thoroughly to the public, for example, through the Chairman’s upcoming monetary policy testimony. Such views might incline you to issue a statement like that in alternative B at this meeting.

Investors appear to anticipate a statement along the lines of alternative B, and, hence, an announcement of this approach by the Committee seems unlikely to prompt much market reaction.

If you are now convinced that a sustainable economic recovery is under way and are especially concerned about the potential adverse effects of sustaining extraordinary monetary policy stimulus for much longer, you might believe that the Committee should begin moving soon to a less accommodative posture and accordingly modify its language now. Under alternative C, page 5, the Committee would revise its forward guidance for the federal funds rate to suggest an earlier-than-anticipated increase in short-term interest rates. In particular, the statement would indicate that the Committee now anticipates that economic conditions would warrant a “low,” rather than “exceptionally low,” target range for the federal funds rate for “some time” rather than for “an extended period.” In the first line of the paragraph, the statement would also change “will maintain” to “decided to maintain” to underscore that the Committee’s decision to retain the current low target funds rate range applied only to this meeting.

In addition to modifying its language regarding the funds rate, under alternative C the Committee would begin to run off its holdings of Treasury securities as they mature. As noted in the memorandum that Brian Sack discussed yesterday, this change in portfolio management would reduce the size of the System’s Treasury portfolio by nearly \$300 billion over the next three years. Market participants do not anticipate that the Committee will begin redeeming Treasury securities anytime soon, and an announcement of this decision might raise longer-term Treasury rates by 10 to 20 basis points, reflecting the higher yields necessary to make investors willing to hold a larger stock of long-term assets. The response might be appreciably larger if

market participants were to infer that the FOMC is more inclined to exit from its current policy stance than previously anticipated.

I should note that the language proposed for paragraph 1 of alternative C is structured differently from the Committee's recent statements; among other things, the proposed language combines the background on real activity and inflation into one paragraph, and it alters the order of the thoughts. One possible advantage of this structure is that it treats economic activity and inflation in a somewhat parallel manner by not explicitly discussing the causal factors influencing the outlook for each. Another is that this formulation does not suggest that recent inflation developments and the near-term outlook for inflation were part of the motivation for the change in forward policy guidance and portfolio management policy under this alternative.

Draft directives for the three alternatives are presented on pages 7 through 9. In addition to language to implement the main policy decisions under each of the alternatives, all of the drafts include language that would instruct the Desk to use coupon swaps to help settle MBS purchases, as discussed by the Committee yesterday, in addition to the dollar roll transactions that the Desk is already using. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you, Brian. Let me call attention to that last point. As written, the directive would authorize the Desk to undertake the coupon swaps we discussed yesterday, and the current plan would be for those to take place before release of the minutes for this meeting. So it would be treated as a technical change that is announced by the Desk. An alternative would be to ask the Desk to delay until after the minutes are released. If you have a view on that and would like to say something about it, then you can just include that in your policy go-round.

MR. PLOSSER. Can I ask a technical question about the dollar rolls and the swaps? How many other issues are pending in that same category? How big is the backlog, in some sense, of this? Are we going to anticipate having to face this every ten days or every two weeks, or—

MR. SACK. The main issue is clearly in the 5.5s that we discussed, with the \$9 billion of unsettled transactions. I think we will see how things go once we start, but we would anticipate

swapping out of those perhaps over a two-month period, so there would be two settlement cycles. In terms of other coupons, there are other unsettled trades, particularly in the 5 percent coupons. At this time, we don't anticipate having to use coupon swaps to settle those. As noted yesterday, there is still some production in those coupons, and there are other factors that we think will keep their supply available. But we'll see, and if we do decide that we need to do swaps in those other coupons, I would inform the Committee before moving forward with that.

MR. PLOSSER. So what's the size of the 5s?

MR. SACK. There's about \$6 billion of unsettled transactions right now.

MR. PLOSSER. Okay. Thank you.

CHAIRMAN BERNANKE. Okay. Questions for Brian? President Fisher.

MR. FISHER. You asked a question, Mr. Chairman, about timing. I have no problem with the coupon swaps. We are talking about, at least initially, \$9 billion out of \$1.25 trillion. The question of timing, it seems to me, relates to the first two sentences in the directive, because it basically says what we're going to say in our statement. I would just ask, if we're going to give the Desk a directive—which I support—whether we need to put those first two sentences in there. We're dealing with a settlement issue. Do the first two sentences take away or pre-announce, of course, what we all know we are going to announce, but before we issue the statement? Is it necessary to have those first two sentences in there? We're dealing with a settlement issue—that's the point.

CHAIRMAN BERNANKE. Are we talking about the first two sentences of the directive?

MR. FISHER. Yes, sir.

CHAIRMAN BERNANKE. When is the directive released?

MR. MADIGAN. With the minutes, Mr. Chairman.

MR. FISHER. Oh, I'm sorry. I thought you were asking whether we should issue the directive before that.

CHAIRMAN BERNANKE. The question is whether the Desk should issue a press release explaining the action they're going to take, not the directive.

MR. FISHER. Okay. I apologize.

MR. SACK. And the release wouldn't list the directive or even refer to the directive, but the current directive that the public is aware of doesn't allow for coupon swaps. So there is that degree of front-running the directive that will come out in the minutes, because it could lead to a question.

MR. FISHER. Obviously, the purpose is to accomplish what we want to accomplish without any implications about the change of policy. This is to accomplish a specific objective. I misunderstood your point, Mr. Chairman. I apologize.

CHAIRMAN BERNANKE. No problem. Further questions for Brian? Anyone? [No response.] Okay. If not, since it is 10:30, let's take a break for 20 minutes, and we'll come back and do the policy go-round. Thank you.

[Coffee break]

CHAIRMAN BERNANKE. Let's recommence, and we'll begin with the policy go-round. President Rosengren, you're first on the list.

MR. ROSENGREN. Thank you, Mr. Chairman. I support alternative B. The Tealbook has a higher unemployment rate at the end of 2010 and 2011 than at our previous meeting. It also has a lower core inflation rate at the end of 2010 and 2011 than at our previous meeting. This forecast is very limited improvement in the very large miss on our unemployment mandate,

and we move further away from reaching a goal of 2 percent inflation. My own forecast has moved in the same direction. As a result, I view any tightening through language or asset sales as moving in the wrong direction. Like the staff, I do not see much likelihood that we should tighten policy in 2010 or 2011.

I would note that key phrases in alternative A provide a description of the outlook and its relation to our goals that seems better aligned with the staff forecast and with my own outlook. In particular, alternative A highlights the fact that the outlook has weakened somewhat, and emphasizes that inflation is likely to remain below, and maybe well below, rates consistent with our dual mandate. Should we experience further weakness and disinflation, we may want to move to language closer to that expressed in alternative A at future meetings. In fact, I am concerned that we should be doing more contingency planning with a possibility that deflation or financial contagion from Europe could move from the risk to the outcome column. While we were quite innovative during the financial crisis, should these risks become a reality, our creativity may once again be tested. In terms of the coupon swaps, I view it as a technical matter. As a result, I think making an announcement of a technical matter is fine.

CHAIRMAN BERNANKE. Thank you. President Yellen.

MS. YELLEN. Thank you, Mr. Chairman. I favor alternative B and approval of the coupon swap as proposed by the staff. The economy is operating far below maximum sustainable employment, and inflation is undesirably low—conditions that are likely to persist for several years. Indeed, the outlook has deteriorated since our April meeting, and the time for policy tightening has, if anything, moved further off. At this point, I see the risks associated with tightening policy prematurely as extremely high, owing to the zero bound on interest rates and the fact that inflation is already so low. This is not merely a theoretical point. As highlighted by

the Board staff analysis, the fallout from Europe poses significant risk for the U.S. economy, and we need monetary policy to be as well-positioned as possible if this or other major downside risks materialize. I strongly support maintaining the “extended period” language. It continues to serve us well in shaping market expectations of future policy, especially as market participants have consistently demonstrated that they understand its conditionality.

A case can be made for further accommodation as in A, but I would not argue for it now. I agree that we should think carefully, though, about what we will do if the outlook deteriorates. That said, I agree with you that the bar for further steps should be reasonably high. We must be attentive, too, to the possibility that an extended period of near-zero rates could lead to the emergence of dangerous financial imbalances. It remains to my mind unclear just how important low short-term rates, as opposed to other factors, were in sowing the seeds of the financial crisis; but recognizing and evaluating financial risks and vulnerabilities should be at the center of our efforts to ramp up macro prudential surveillance. So far, as the financial stability staff memos document, there are no signs of such excessive leverage or speculation. In fact, over the intermeeting period, the appetite for risk has retreated in reaction to events in Europe. So this leaves me comfortable with our current policy stance and alternative B.

CHAIRMAN BERNANKE. Thank you. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. At this meeting, I’m willing to support alternative B. The modest increase in downside risk since the last meeting makes this an inopportune time to make any significant adjustments in our policy rate or our language. I continue to believe we’re going to need to tighten earlier than the Tealbook assumes. I think the likely modal outcome is that these downside risks will dissipate, and the economy will proceed

to recover, and we'll get to a point months down the road where the economy looks about the way that we forecasted it would back in March.

I continue to believe that normalizing our balance sheet is an independent policy imperative that we should be discussing, and I don't think it needs to wait until we raise rates. As I said yesterday, I think the composition and size of our balance sheet are two different things—there's no reason we can't vary them independently. I don't think we've given that option enough attention in our discussion, so I support President Hoenig's letter urging more discussion and analysis of scenarios involving asset sales. Everything the staff has presented to us, as I said yesterday, involving asset sales involved a concomitant variation in the size of our balance sheet.

There was some discussion yesterday about the effect of reserves, rather than our assets, on the economy. I don't see, from observations on what we've done so far, how you disentangle the effect of our asset purchases from the effect of the reserves we have put in the economy. If there's a way to identify it, I'd be really interested in seeing it, but I certainly haven't seen it in any staff analysis. The general presumption is that there are general equilibrium effects running around.

I'll point out—and I sort of made this pitch before—that, to the extent that some theories about the effects of our asset purchases rely on market segmentation, that's something that, in principle, is amenable to direct observation and verification: We should be able to document that these institutions face this impediment from participating in that market as opposed to this market. Surely the facts about that are out there, and relying on indirect econometric evidence alone seems weak to me. This is just by way of a suggestion for future staff research.

I was questioned as to the benefits of reducing our mortgage-backed security holdings rapidly. I've admitted before that, for me, the benefit is chiefly in the nature of political economy. If there are some political economy considerations on the other side that would make us resist moving to all Treasuries in an expeditious way, I'd be interested in hearing about them. But I don't know of any.

Again, I support further study of asset sales and a program as suggested by President Hoenig. I don't see why, if we adopt a program like that, we can't independently vary our Treasury holdings in the natural way, either to maintain the current size of the reserve balances in the system and our assets or to have them trace out a path higher than they would trace out if we just sold the assets. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. I'd just make the observation, without knowing exactly which way it cuts, that conversations with foreign holders of U.S. securities suggest that for some reason, which I don't understand, they believe Treasury purchases to be much more inflationary than MBS purchases. I understand there's no theoretical basis for this distinction, but somehow it's a very strongly held view—just for what it's worth. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. I favor alternative B. I agree with some of the suggestions around the table that we need to be thinking about contingency planning of various kinds. On the one hand, things could surely go better than we are currently expecting, and we have to have a strategy in place not just about what we're going to do, but also about how we plan to communicate what we're going to do. For example, the Chairman suggested yesterday we might start talking about doing sales in six months, with an interest rate hike somewhere in between—that might be one possibility. But I think we have to be formulating

plans now for these contingencies, because it could well be that in six months or nine months we'll be surprised on the upside and have to think that through.

At the same time, I think we have to be thinking about what we would do in response to adverse shocks, as President Yellen and President Rosengren have suggested. Should we go out and buy more assets? My guess is that that's not going to be the best thing to do right now. I think this was an effective strategy in late 2008 and early 2009, because markets were much more dysfunctional than they are now. When markets are functioning well, you don't have the kind of segmentation necessary for a change in the composition of assets to have huge effects on market prices. And you're not going to be able to have a huge stimulus effect as a result. I think the correct thing—although we have to think more about this—would be to try to commit as much as possible to language like the “extended period” language. For example, the proposal in alternative A says “will” instead of “likely” to warrant, which basically commits us to being slower to tighten—in other words, our best response to adverse shocks would be trying to stretch out the zero as long as we can.

A much more difficult problem, is the situation where deflationary expectations start to become hardened—a deflationary trap—as I discussed in the economic go-around. My own assessment of the literature and my own thinking about this lead me to believe that we, the monetary policymakers, have very limited tools at our disposal in this situation. I think it would be great to have staff research on this, because it's a very challenging problem. Without a lot of monetary policy tools at our disposal, we would have to hope for a sufficient degree of fiscal irresponsibility from the Congress [laughter]. The Japanese have tried the fiscal approach, and it has not been successful for them. So I think it would be a very challenging problem if we got to that stage. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Fisher.

MR. FISHER. Mr. Chairman, I was thinking about your thoughtful summary, particularly the last part of your statement. Don had scared me a little bit with his intervention, and I think you summarized it all very, very well. I would like to just make some general points.

I think we have to be very careful with our franchise. We have comported ourselves well. We instituted liquidity measures that frightened some people and led to assumptions about what we were likely to do, possibly leading the nation to ruin. We executed them well, and then we unwound them. I can't think of many government institutions that do that. In fact, I can think of none, but there may be cases in history. The point is that I believe we are a very credible institution. We are *primus inter pares* among central banks. That is befitting for a great economy and for a great society. And I think we have to be extremely careful at this juncture, indicating changes of purposeful direction.

You know that I like to think in terms of decision trees. I think it is absolutely appropriate for us to think of different conditions that might obtain. But I think we have to be very careful how we signal that, having earned the respect of the marketplace and of other leaders elsewhere, because they are way behind us, and many are seeking to emulate what we do as they transform themselves, as in the case of the ECB. So, as my colleague from Minnesota expressed well, I wouldn't rule out either scenario.

I would remind myself that we are correcting from a very traumatic period. It takes a long time to recover from trauma, and it is being done in the context of globalization, a rapid ascent up Moore's curve, and several other things that are impacting a significant part of our dual mandate. Inflation doesn't seem to be the issue currently—we all acknowledge that. And, in fact, there are downside risks. But there may be limits to what we can actually do about

unemployment. For example, I think unemployment is a function of many things. It's a correction from excess; when you're fat and happy, you make mistake—employers did that under the Great Moderation. It's a reflection of enhanced ability to ride Moore's curve to greater productivity, having fewer people perform more functions. It's a function of education. It's a function of choice, and by that I mean that if you're not happy with the random refereeing here, you go to where there's more stability. There are other mentions of companies that seek to increase their cap-ex elsewhere rather than here. Here is the point: We have to be very careful that we don't promise something we cannot deliver. It's not clear to me that expanding our balance sheet will have an impact on the employment side of our dual mandate. So I think we have to be very careful about what we promise. Having said all of that, I think you're right that we have to consider the options and draw out the decision tree.

I do want to comment on the asset part of the portfolio. When we started, if my calculations are correct, the duration of our portfolio before the crisis was 2.6 years, and 35 percent of our portfolio was in bills. Even after adopting the option we seem to be gravitating towards, option 2, the duration of our portfolio will be 3.9 years, and the holding of our bills will be 9 percent, up from 2 percent. So we are far away from the norm, and I think we need to bear that in mind. You make a good point on Treasuries, because this is a message all of us are receiving whenever we've gone to see the Chinese and others. But we do need to remember that our holding of mortgage-backed securities is an unnatural act, and it's something we did to remedy a market dysfunction. I still wouldn't rule out taking advantage of the fact that this market is priced very handsomely, and we might be able to take advantage of that in order to get out of that unnatural holding that's in our portfolio. So I want to underscore parts of what Presidents Lacker and Hoenig have said.

Against that background of remembering that we have hard-earned credibility and, at the same time, that we're in a very difficult period of uncertainty, I would be supportive of alternative B. The one thing I notice missing in the draft statement is the reference—and I don't know how we do this and whether we should do this—to the random refereeing, that is, the reason that investment in nonresidential structures continues to be weak and that employers remain reluctant to “add to payrolls” is in part uncertainty about tax and regulatory requirements. That was referred to by the Vice Chairman, by Governor Duke, and by several others that talked about what they are hearing anecdotally from companies and employers. So I would prefer to add that in there, unless it crosses the line into politics. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Kohn.

MR. KOHN. Thank you, Mr. Chairman. I'm in favor of alternative B. I don't think we're any closer to tightening than we were two months ago. The downward revision to the outlook has pushed our tightening off by at least a couple months, so I think the “extended period” is still appropriate, and I fear the “extended period” is going to be appropriate for an extended period. As I noted at the end of my previous presentation, the path for the outlook is really unsatisfactory, and if the nominal funds rate were above zero, I would be advocating that we reduce it. President Fisher, I think you're right that a lot of the problems in the labor market are structural, such as education, etc., but there is a demand deficiency that has produced a substantial proportion of that unemployment, though by no means all of it. And I think that, consistent with our dual mandate and without sacrificing the price stability goal at all, if we could make demand stronger, we would be fulfilling our responsibilities under the law. But I agree—now that we're at zero, it's difficult.

The hurdle for doing something extra is higher than the hurdle for just reducing the funds rate, given the uncertainties and the possibilities of adverse feedbacks. I completely support your suggestion, Mr. Chairman, that we should be looking at that contingency and the various things we might do if circumstances suggest that more stimulus, greater impetus to demand, from the monetary authority is required. Along those lines, President Kocherlakota talked about forward guidance. That was on my list, too. For example, are there things we could say that would change market expectations about when we will tighten that would lower long-term interest rates? The Vice Chairman talked about not reducing our portfolio of MBS any more—that would be one thing. Getting back into buying assets would be something else, although it has the negatives that you talked about. And one instrument no one has talked about is the interest on excess reserves. It's not totally clear to me, if the situation were weakening, why that should be 25 basis points. I think we put it there because we were worried about things like the money market funds and market functioning of one sort or another. But, if we get to the point where we think easing is necessary, then I would reduce that all the way to zero. I don't see why not—Brian Sack might have a reason why not, but right now I don't see it. I think it would be a powerful signal of the Committee's intentions and of our concern, so I would add that to the list that everyone has put forward of the contingency plans we ought to look at.

The fact that we're having this conversation just reinforces my predilection, as I said yesterday, not to announce or do anything with sales or redemptions that could actually be a tightening or even be perceived as a tightening. This is not the right time to do that. And I'm not quite there, President Lacker, regarding separating totally the level of our portfolio from the composition of our portfolio. I think the composition of the portfolio had a lot to do with the effects we did have on the market, and I'm not sure we could change that composition without

having some tightening effect. It would depend on the type of changes we're talking about.

Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. I support alternative B with some modifications. Just as a general comment, this statement doesn't mention the quantitative easing program. I don't think it's wise not to mention the program in some capacity—I don't have language to do this—because we're thinking that we might have to adjust the program one way or another in the future. If we leave it out, then it looks as if the program isn't a tool. You wouldn't leave the interest rate out of the statement, so why would you leave the quantitative easing program out?

In paragraph 2, we use the phrase “substantial resource slack.” As I've said before, I think this puts too much emphasis on this factor. My reading of the literature is that the empirical evidence is very mixed on this question. The relationship between inflation and slack is tenuous at best. Elevating this to a key policymaking pillar, which is what we're doing by continually putting it in the statement, is a misrepresentation of what we know. Slack can certainly be a factor, but there are many factors in a large economy that affect inflation. Overemphasis on this factor did not serve the Committee well in the 1970s or in the 1990s, and I think it may not help this time either. The U.K. is a current example of a country with substantial slack by conventional measures, but which, nevertheless, has inflation above desired levels. So I'm just reiterating that I'd prefer not to put so much emphasis on this in our statements.

I have one broader comment. As we've been saying, the European sovereign debt crisis is one of the most serious threats to global recovery since the fall of 2008. I was somewhat

alarmed to see that the adjustment of the date of tightening in terms of the interest rate on excess reserves in Tealbook B moved to 2013. That sounds way too long to me and creates a substantial risk that we'll follow Japan, and possibly Europe, into a very long, near-zero interest rate era.

If we think that the outlook has actually weakened that much—I'm not sure I do—then we should think about and analyze actions we can take through our quantitative easing program. So I agree with President Dudley and others on this dimension. If we do have to take further action, I would prefer not to go the MBS route, which I think we've exhausted at this point. We can buy additional Treasuries. I'm fairly convinced that that would increase inflation expectations and put upward pressure on inflation, if the concern is that inflation is below target, and it also would be stimulative for the real economy. I don't think we should take that action today, but if we were to see an additional adverse shock in the future, then, we should have a method of addressing it other than indefinite delay of the date of IOER rate increases.

And I for one question the effectiveness of further delays in the increase in the interest rate on excess reserves in stimulating real activity and in keeping inflation near target. In models, that kind of thing works well, and it has, obviously, been recommended from the New Keynesian literature, namely, that policymakers should promise to stay at zero for a longer time. But I'd question whether markets understand it that way and whether it's having any impact at all on real activity. I am doubtful that, in the event of further adverse shocks, stretching out the time before rates are increased will have any effect. Quantitative easing, on the other hand, at least according to our staff analysis so far, does have an impact, so we should use that in a state-contingent way, either on the upside or the downside, as shocks come into the economy.

Let me just elaborate a bit further on this. In the New Keynesian model of Mike Woodford and others, which is the leading theory in this area, it is very important to take action continually in response to shocks that hit the economy. The worst policy in that analysis, if you believe it—and there are a lot of assumptions—is the “no response” policy, no reaction to shocks. In the model, that’s the interest rate peg policy—policymakers just leave the interest rate at some level, and, as shocks come into the economy, they don’t react; it’s a passive policy.

Why is it the worst policy, according to the model? Because it’s the one that allows multiple equilibria, which means that many possible sets of prices and expectations can clear markets. So you get this “anything can happen” result in the model if you follow this passive policy and you don’t react to the shocks. To me, staying at zero for such a long time sounds a lot like the passive policy, where you do not react to shocks at all. And if you’re also going to put quantitative easing on hold, then you would really not be reacting as shocks come into the economy. People in policy circles have talked about this, namely, that such a passive policy somehow has been generating the kinds of bubbles that we’ve observed in the 1990s, and especially in this decade. To avoid that outcome, the recommendation would be to maintain an active policy through the quantitative easing program and to react in a state-contingent way to the shocks that come into the economy.

I have one final comment on a separate issue. The Chairman pointed out that, in our forecasts, everyone expects inflation to be low and unemployment to be high for the foreseeable future. I will just point out that those forecasts are done under an assumption of appropriate policy. I always feel constrained not to say that I think inflation is going to be very high in the future, because I’m supposed to be making a forecast under the appropriate policy, and I think under the appropriate policy we should be able to hit whatever our inflation target is in the

medium term. I don't want to turn in a forecast that's going to betray a lack of confidence in the rest of the Committee to follow the appropriate policy that's going to help us hit inflation. So I'm not sure you can read off the forecasts that that there aren't a lot of worries around the table about what inflation is going to be in the future. But I think everyone is saying that if you follow their policy or you follow the appropriate policy, you'll get the inflation outcome that they want in the medium term. That's the last point. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Hoenig.

MR. HOENIG. Thank you, Mr. Chairman. It's interesting that we're ending about a year's worth of economic growth. The recovery, of course, has gone through various phases, as President Fisher and others have noted, and the data have been mixed throughout. Accordingly there has always been a degree of uncertainty with us. I've been at this table many times in the past where uncertainty has caused us to wait. Waiting is always attractive—certainly, I'm attracted to it, as well. I recall discussions earlier in this last decade about concerns of deflation, uncertainties regarding world events, just as we're discussing here. There's always a good reason, and I don't dispute that. I, too, worry about employment. Jobless recoveries seem to be becoming the norm, and the adjustments seem harsher. But my bottom line is that our dual mandate is a long-run mandate, and we need to go oh so carefully now to become less accommodative, because otherwise we may face the risk of adverse long-term consequences.

My view is that the situation we're coming out of was, in part at least and perhaps significantly, related to a period in which we kept rates very low in this world of uncertainty. So, what is it we have here? We have an outlook. There are tail risks; I recognize that. And we tend to focus on those tail risks—they scare us to death, but that's what we tend to do. However, the economy is growing, and the outlook suggests further growth. That's what we've all said—not

robust economic growth, but further growth. Inflation is modest, but our actions have effects on resource flows as well, imbalances, and long-term stability, some of which President Bullard referred to. Europe is a concern, and we need to keep our eye on it and be prepared to act, of course. But it should not drive our decisions today. Asia is actually stronger and is a positive factor that we ought to take into consideration.

So I think it's very important that we take this "extended period" language out, that we open up the possibility of selling assets as the economy evolves. Taking the language out doesn't mean we increase the funds rate. I know it may have an implied tightening effect, but I think, with the right explanation, that opening up our options is something we have to think about very carefully. As I said at the last meeting, we ought to begin to talk about a strategy going forward. Yes, that would take away this very significant accommodation. I believe there are consequences to maintaining the accommodating, and that's my major concern. Thank you very much.

CHAIRMAN BERNANKE. Thank you. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. I support the policy of alternative B and most of the language. I do want to point out a slight concern—it may not amount to much. In the first paragraph of alternative B, it reads that, "Economic activity has continued to strengthen," and I wonder whether there will be some inconsistency in the interpretation of the minutes with that word "strengthen." One slight change could be to say that "the economic recovery continues to proceed," which avoids the risk that people will think there was an inconsistency between the statement and the minutes. I think it's particularly important at this juncture that the statement and the minutes align well, because the market is, in all likelihood,

going to react to the minutes. The results of the forecast, as well as the tone of the meeting, could evoke quite a response, and it's important that we make sure there's consistency.

I favor the approval of the coupon swaps and the inclusion of it in the directive as proposed.

And, finally, I'd propose that we delay the statement by half an hour and cite the World Cup as our excuse. I think this will add to the prestige of the Fed [laughter] and will, on a global basis, add to the credibility of our institution and have very positive effects on the efficacy of monetary policy going forward. Let the transcript read that I'm kidding. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you for that clarification. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. Despite the talk around the table, I think the modal forecast for most of us is that a sustained, modest recovery is continuing, although the forecasts have been tempered ever so slightly—not substantially at this point. There clearly are upside and downside risks to that forecast. In my own case, as I mentioned yesterday, at the last meeting I did see the risks tilted to the upside, because I felt that the recovery was proceeding and because historical correlations suggested that it ought to be stronger than we were seeing. I now treat them as balanced, so I changed the balance of risks. But I don't think that's a cause for changing policy at this point.

I'm actually quite worried. Several others have touched on this, and President Lockhart just alluded to this—part of our job is thinking about the what-ifs. What-ifs can almost paralyze you in making policy decisions. I think we have to be very careful to resist allowing that paralysis to set in. Given the nature of the discussion around the table, I'm also somewhat concerned that the minutes not show a terribly bleak picture. Considering that we haven't

changed our forecast that much, painting a bleak picture of the uncertainty and risks around Europe and the euro zone could actually be detrimental to our cause and create uncertainty and a lack of confidence in the economy as a whole. So I think we have to be careful not to talk only about the downside risks and the problems that might happen, but rather to focus on what our forecasts in fact do say. And, speaking of forecasts, I'd like to reinforce President Bullard's point about appropriate monetary policy under the assumptions. Certainly, in my own forecast, while I have inflation contained, I probably have a very different forecast of the underlying interest rate and appropriate policy than many others might have around the table. So I think we need to be careful about that.

I also share President Lacker's view about the composition of our balance sheet—I think our MBS holdings present important political risks to us going forward. I think the longer we maintain large holdings of those, the more we reinforce the expectation that that's the appropriate role of monetary policy, and we'll be subject to pressure on that going forward. We bought those—as has been emphasized several times, and President Kocherlakota has made this point—at a time when markets were in fact dysfunctional. And while there might have been a good reason for doing it at that time, I think it's less clear that that's necessary in the current environment.

Yesterday we discussed option 2 for redeeming Treasuries and moving to a shorter-term duration of our Treasury portfolio, even though we may be maintaining the size of our balance sheet. I think that it's important for us to continue that discussion and that it will be helpful for you to lay the groundwork in your July testimony for the beginning of that message. So I would encourage us to continue to pursue that. I think we have some real challenges ahead of us, but I just want to emphasize that, despite the risks, our forecast is still in place. And we need to

continue our planning about how we will unwind ourselves from still extraordinary policy accommodation.

I think we have to be very careful not to fool ourselves into a false sense of precision about the magnitude of actions that we take. Our ability to predict the effect on aggregate demand, or unemployment rates, from a move of 10 or 20 basis points, in reaction to either an asset sale or a decision on our part, is remarkably imprecise and completely unknown. After all, the 10-year Treasury note has fallen almost 50 basis points in the last two months, with no action on our part. Given that we have so little ability to predict these effects, I think we shouldn't tie our hands, worrying excessively about those sorts of moves. I think President Hoenig was correct that we need to keep our focus on the long-term consequences of our actions. And while the short term is surely important, again, we must not sacrifice the long term for the short term. That's what central banks are for and what monetary policy ought to be focused on.

I can live with alternative B at this point. I do have one observation about the language, and that's in paragraph 2. I share President Bullard's concern about using slack as the primary variable that policymakers look at. I've talked about that for at least two years now, so I won't mention it any more. But I would say I'm puzzled by the insertion of the first sentence in paragraph 2 about energy prices. I don't know why we want to bring that into this discussion. I'd be perfectly happy just to leave the statement as it was last time. Our ability to pick and choose certain relative prices over others to throw into the statement, to try to explain what's going on, seems to me not very productive. So I would just as soon get rid of that first sentence and leave it as it was before. And that's my only suggestion. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Evans.

MR. EVANS. Thank you, Mr. Chairman. I agree with alternative B, and I am fine with the coupon swaps. I'd like to agree with President Bullard—I think that he has a good point on including the size of our balance sheet as a tool of monetary policy in paragraph 3. It does seem that we've spent a lot of time talking about a second tool of policy aimed at term premiums, and language indicating that the Committee has injected a large amount of liquidity through LSAPs and will maintain our target rate for the federal funds rate would be accurate in describing what our tools are. It may be difficult to do, though.

Given our collective outlook and policy objectives, I continue to believe that substantial monetary policy accommodation will be appropriate for a good while, so I agree with the “extended period” language. I take this stance, however, mindful of the many policy risks that we face. In particular, although I put little weight on some issues at the moment, it does seem that it would be proper due diligence to consider some criticisms about earlier periods of highly accommodative policy and ask if we're sufficiently insulated from adverse outcomes this time around. Specifically, I'm thinking about John Taylor's arguments that policy remained too accommodative during the 2003–2006 period, which contributed to financial markets' failing to price risks adequately. Are these same risks relevant today? What actions would best safeguard against them?

Although our forecasts are underrunning our objectives, as you mentioned, Mr. Chairman—and as did many others—it seems natural to me that many are uncomfortable with our now 18-month-old policy of a zero federal funds rate and a pretty large balance sheet. As President Hoenig mentioned, the recovery is on, economic growth is okay, though it's not robust, and zero seems like a very low interest rate for us to be targeting. But there is a bit of déjà vu of the earlier period right now. We again have large-scale joblessness, and maybe some further job

losses coming—who knows?—even though economic growth has picked up. Indeed, one reply to Taylor’s 2003 criticisms is that policy at that time does not look as accommodative if one focuses on Taylor rules that use labor data, like the unemployment rate, instead of output gap data, which he has emphasized.

How about today? Well, in the Tealbook, the labor-market-based optimal control rules may have the funds rate negative until 2013, so the labor market is contributing to that. And it’s possible, as others have mentioned, that there are structural elements to the high unemployment rate now and the labor market difficulties. But even abstracting from that, looking at the output-based Taylor rules, they point to continued very low, zero funds rates for an extended period, into 2012. And, as I’ve mentioned at other times, there are many other indicators of resource slack. So the downtrend in the inflation numbers is not consistent, in my mind, with us having experienced a large drop in potential output. Slack in labor and product markets currently is sufficient to outweigh the anchor of inflation expectations at the moment.

My point simply is this: The projected output and inflation paths corroborate the labor market justification for our policy stance, in my opinion. And it’s hard to see the same forces building that John Taylor spoke of in that earlier period, 2003–2006. So I think that accommodation is a robustly appropriate policy at the moment.

I certainly agree with your observations, Mr. Chairman, that our policy choices should be symmetric with regard to our dual mandate goals. I’ve said before, as Governor Kohn mentioned, that I would prefer a policy with an even lower interest rate, if that were possible—it’s not. And I do worry about the argument concerning diminishing returns for some of our policy actions. I think that if we considered more large-scale asset purchases, we ought to talk

about that issue. For example, would we be stimulating certain sectors of the economy, which already are struggling, like housing? How would we deal with that?

Finally, I think the forward-looking language falls into this category, too. There's only so much we could get out of extending the "extended period" language. In theory, yes, but, in practice, I'm doubtful—I agree with President Bullard's comments in that regard. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Pianalto.

MS. PIANALTO. Thank you, Mr. Chairman. I support alternative B. I think the uncertainties are too great to adjust our policy in either direction at this meeting. The economy is recovering gradually, but the European debt crisis and the resulting lower appetite for risk in financial markets are risks to the recovery. The inflation data continue to show a broad disinflationary pattern, and compensation data have been weak, and have led to yet another round of lower inflation projections.

My baseline outlook is still consistent with alternative B, but, in my view, the risks for both inflation and output are weighted to the downside. I do think that these downside risks warrant discussion of actions we could take in the event of an adverse shock. While I'm still satisfied with the state of our exit strategy discussion, I do think we should devote some time to talk about policy alternatives that we have if the downside risks materialize. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Warsh.

MR. WARSH. Thank you, Mr. Chairman. Given the current situation, I support alternative B and the coupon swap as requested by Brian and the Desk.

In terms of the statement itself, I think paragraph 1 will sound to markets a little stronger than expectations—not a lot, but a little. There’s some language in it that makes me feel a little uncomfortable. Describing the E&S spending as appearing to rise at a robust pace sounds a little ahead of where our discussion has been. But I don’t want to micromanage the statement.

In terms of the other policy considerations, building on what you said, Mr. Chairman, about diminishing returns of the QE regime, I would say we are past the point of diminishing returns. The judgments we made on the size of our asset purchases were made amid a ton of uncertainty. I don’t think any of us knew with precision what that optimal point was. Looking back, it appears to me as though we went past the point where we were getting net benefits. That judgment, and the different judgments we have on that question, should inform our moves in either direction for policy going forward, whether there’s more that should be done through the balance sheet or whether there should be a period of what I describe as opportunistic divestment of some of our MBS holdings, perhaps akin to opportunistic disinflation from central bank meetings of the past.

In order to have that discussion, though, about trying to find what the equilibrium level of our balance sheet is, it strikes me that the most important discussion, both for us and for the public to understand, is that we have multiple tools, not one. I continue to believe that, if we were to announce at this moment that we were shrinking our balance sheet, it would likely bring forward expectations of a policy shift, because the public thinks that the size of the balance sheet is directly linked to policy rates. I don’t think that’s a proper understanding, so my policy predilection would be to try to describe as clearly as we can that we have multiple policy tools, and, consistent with the minutes from last time and your discussion, Mr. Chairman, it is still the case, I think, for most around the table that the policy rate is the predominant tool.

But there are other tools that might move, and we could imagine circumstances where the size and composition of the balance sheet might move in ways that doesn't or ought not bring the policy rate expectations forward or back. So I'll say just a word on each of the three policies—size, composition, and policy rate—from my own perspective.

In terms of size, as you said, Mr. Chairman, it's hard to know what we'd buy if we wanted to expand the balance sheet, and what benefits we would get. In terms of composition, I think that if we were to make a decision to buy Treasuries under an LSAP program, the consequences for our credibility, given the current fiscal question, would be very significant, so I would be quite allergic to that, given what we know now. Finally, on the policy rate, I hope and expect that the Tealbook is wrong, that is, I hope that policy moves with greater force and greater speed than anticipated in the Tealbook. But, again, given my own sense of when it's going to move, and given the market's reaction and understanding of what "extended period" means, "extended period" is fine in the statement as written.

Just a final point: I'll join many of my colleagues in saying that the work done by staff in preparation for this meeting was really helpful, really extraordinary. But I would also say that the staff work is a shared burden for all of us and for all of our staffs. And I think there is incredible talent around the System, and it is very well funded. So, as we think about new projects, I think that our staff here will continue to be doing a ton of work to prepare for these meetings, but I don't think the burden should rest totally with them. And I'd encourage my colleagues to think about work that can be done to inform your own thinking and the broader thinking by your own teams. Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Duke.

MS. DUKE. Thank you, Mr. Chairman. I favor alternative B and the coupon swap. I'd still like to see us normalize our balance sheet, including the duration of the Treasury portfolio, but I recognize that this is not the time to do so, and I'm cautioned by the potential that our next move would be further accommodation. I'm actually frightened about the idea of getting memos from 12 different Reserve Banks. [Laughter] But the staff's work has been incredibly helpful. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. I favor the policy actions in alternative B, but not necessarily all of the language. Alternative B, as drafted, does not seem to me to reflect either what I described as my modal projection or the tail risks that many of us have talked about. With respect to the tail risks, I am not sure it would be particularly helpful to specify those in our statement, and they will be evident in the minutes when they're released in a few weeks. But, with respect to the projections of the economy, I think that there was a palpable change in the attitude of the Committee, and I agree with Kevin that alternative B, paragraph 1, is rather more upbeat than either the Tealbook forecast or what most of us had to say around the table. Initially, I was going to say I just favor the language in alternative A, but I only see two differences between A and B, one of which is the insertion of "in recent months" to "bank lending has continued to contract," and that doesn't strike me as a salient difference. So I would favor more particularly the substitution of the last sentence of paragraph 1 in alternative A for the last sentence of paragraph 1 of alternative B. I thought that the effort in the first red insertion in paragraph 3 of alternative A—if I understand it correctly—to try to specify a bit more our reaction function was and is an interesting and good effort. I don't think the language quite

captures probably what all of us would agree to, but I think it would be worth doing more along those lines for the next couple of meetings.

The only other thing I'd say, Mr. Chairman, is in support of my argument for the sentence change in the first paragraph. I recall the debate last year, which included, to some degree, people around this table, between those who said that the mixed data we were seeing at the time were eminently characteristic of the early stages of a pretty strong recovery, and that we would pretty soon see things converging around stronger data more or less across the board, and those who predicted that this was going to be a halting recovery in which there were going to be potholes, or headwinds, or some other metaphor, looking out a fair time into the future, and thus we are going to continue to see a pattern that was sort of two steps forward, one step back.

I think that, nine months later, that debate has been, at least in the medium term, clearly decided in favor of the latter camp. So I think we've got to come to grips with the fact that, even in the modal forecast, this is not a lot of strength, and this does not promise anything close to the achievement of at least one side of the dual mandate, and, I suspect, increasingly, both sides of the dual mandate. I don't know how many years it takes before the high levels of unemployment that we all project constitute the long run rather than the short run. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Mr. Chairman. I favor alternative B, and I'm fine with the coupon swap as proposed by the staff. That said, it wouldn't take much in terms of weaker economic data, lower inflation, and further financial market distress for me to prefer alternative A. I am concerned, in particular, that any significant weakening in the economic data from here could raise fears of a double dip, and that, in turn, might increase the risk of further risk aversion and a further tightening of financial conditions, which would actually

make the double dip more likely. I think that, in those circumstances, alternative A would be appropriate. I'm not quite there yet, but it wouldn't take much to push me there.

If economic conditions deteriorated and financial markets were to tighten, it would be important at that stage for the FOMC to show that our toolbox was not empty and that we were still willing and able to act to lean against such developments. I think a failure to act at that particular point would be quite dangerous, because it would reinforce fears that there was limited scope for further economic policy support, and that would create even greater fears of a double dip. In terms of escalation, I think we've laid out what the options are: We could stop redemptions of agency MBS, we could restart a purchase program of Treasuries and/or agency MBS, we could change the language in the statement to try to commit to lower short-term rates for a longer period of time, or we could cut the IOER rate.

I think the bar to reinvesting maturing agency MBS should be pretty low, because that's really just maintaining the status quo. Letting the agency MBS run off is essentially a de facto—very modest but, still, de facto—tightening of policy over time. I don't think it's going to be very stressful on the economy, but I don't think the bar to reinvesting the agency MBS should be very high. I do agree with Governor Warsh and others that bar to expanding the balance sheet should be considerably higher for a whole variety of reasons.

In terms of changing the language, although it's an option, I don't have any really great ideas that I think would be particularly helpful. "Extraordinarily low for an extended period" is already pretty strong, and the market doesn't seem to be off base in their expectations relative to our own expectations. I suppose we could commit to some sort of price level target, so that any undershooting on inflation over the next couple of years would be reversed down the road, but, as we've discussed in the past, I think that has real communication difficulties right now.

In terms of the interest on excess reserves that Governor Kohn raised as a potential option, I think it certainly should be examined, and I'd like to see a little bit more work done on what the costs and benefits of that are; that is, how much market dysfunction we'd create by cutting the IOER rate further versus what the benefits would be in terms of the signal that we would be sending to markets. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you, and thank you all for your comments. Let me just give a few thoughts, and then we can discuss some of the language suggestions.

On the substance of the policy, as I said in my earlier remarks, most quantitative analyses would put us at the zero bound, I think, at this point, including Taylor rules, optimal control exercises, and some micro-founded analyses. It is true, as President Bullard pointed out when I made this point at the last meeting, that, in addition to our interest rate policy, we have language, and we have some QE. On the other hand, we also have some financial headwinds, which aren't incorporated in the typical Taylor rule type of analysis. So on the substance, I think there's considerable agreement that we should remain at the zero bound at least for now.

What are the risks to that? First, of course, is inflation. The inflation data look very moderate, and inflation expectations seem to be flat to down. I didn't hear much concern around the table, at least for the near term, about inflation risk. The risk that has gotten more attention—and President Hoenig has been particularly strong in advocating it—is the potential risk to financial stability from low interest rates over a long period of time.

I'd like to make a few comments about that. First, I remain at least somewhat skeptical of what I understand is the conventional view, namely, that too low for too long was an important contributor to the financial crisis that we recently experienced. I gave a speech about this in Atlanta at the beginning of the year, which was backed up by staff research. That

research, for example, showed that cross-national comparisons of monetary policy bore no relationship to housing price increases. It also showed that Taylor rule calculations of the type that John has done are extremely fragile and that alternative Taylor rules don't show any particular problem with monetary policy in the early part of this decade. In particular, I would add that I think it's a mistake to appeal to Taylor rules to talk about asset price bubbles, because Taylor rules are not designed to talk about that issue at all. There's no reference to them in the Taylor rule, which is entirely about the traditional employment and inflation objectives. So I would just appeal to you to think more about the premise that, I understand, is widely accepted, but that, I think, at best is uncertain. Moreover, I also think that, regardless of the source of the overheated financial conditions, a stronger regulatory and supervisory response could have avoided much of the bad outcomes that we had.

In regard to President Hoenig's concern, I think it's important to respond to it because, even if we're uncertain about whether low interest rates lead to imbalances, there certainly is the possibility that they do. Any fair-minded person would have to admit that, and therefore, it's important for us to take that into account. Again, I want to reiterate, as a number of people have done, the praise for the staff's work at looking at various measures of imbalances. I thought it was very helpful. I think we need to expand those types of evaluations, and, as Governor Warsh did, I invite research staffs around the System to try to add their own cites. But I'm not sure what else we can do besides do our every best to analyze and assess whether imbalances are developing. I note that if we had applied the tools we use today in the late 1990s or in the early 2000s, we would have detected imbalances in stock prices and in housing prices. Moreover, I think it's very important that we continue to strengthen our supervisory tools and regulatory tools. That process is already under way, and I see that financial regulatory reform is near

completion. I hope very much that we will have an additional set of surveillance and response tools available to address these concerns without distorting monetary policy to address them alone.

In summary, I commend President Hoenig for bringing that issue to our attention. I understand the concern. I think even with the uncertainty about it, it is important for us to monitor that issue. We are, indeed, monitoring it, and I think we should continue to do that. I would also add that whatever early indicators there were of excess in financial markets, the European developments over the intermeeting period have offset a good number of them and have reduced risk preferences and have indicated less interest, for example, in carry trades. Again, I think we have to balance all of these concerns, but I hope we all agree that we're not neglecting this issue as we discuss it.

I have just a final point on this issue. There's an awful lot of talk about how our policy is extraordinary and the zero interest rate is unprecedented, and so on and so on. That is true in one sense. But I think most of us around the table would agree that real interest rates are more important than nominal interest rates, and real interest rates currently are about minus 0.9 percent, using the 12-month core inflation rate as the inflation measure. That is 50 basis points tighter than it was eight months ago and less negative than it was during the 2003–2004 episode, while, of course, unemployment was about 3½ percentage points lower. So it's true that nominal interest rates are very low, but I hope that we can understand that real interest rates should at least be given equal attention. Again, I believe that the substance should be that, for now, we should stay where we are and have a pretty much status quo policy and policy statement.

I listened yesterday with great interest to the discussions about the balance sheet. I will be checking back with you, depending on developments, about what I should or could say in the hearings in about a month. I think those are all valid points, and, personally, I found it very illuminating to hear the discussion yesterday, so I appreciate that.

In terms of the statement and the preferences, virtually everybody agreed with alternative B. There were a number of suggestions. Let me try to talk about a few of them and see if there's any interest in making changes. Both President Bullard and President Evans pointed out correctly that we don't have any explicit reference to quantitative easing in this statement. I looked back, of course, in the last statement and we had no reference to it there, either, so there's no change from our previous statement in that respect. We've only referred to our balance sheet when we've made some kind of change, but I think your point is a good one, and, in going forward, I think we ought to try to look for a way to emphasize that we have, as Governor Warsh said, two different tools, not just one.

While I'm addressing President Bullard, let me refer to his discussion of the issue of slack and inflation, and I understand there are mixed views about that. I would venture the opinion that the last few months have been fairly kind to the slack theory. At least core measures seem to be responding to slack, although, admittedly, in a short period of time, you can't make a definitive judgment. One thing we have proposed in this statement is to add a sentence about other factors—as you mentioned, energy and commodity prices—and to state that underlying inflation has trended lower. The latter, of course, is simply a statement of fact and moves in the direction of saying “here's something that we observe,” and it doesn't say that underlying inflation has trended lower because of slack or any particular factor.

President Lockhart, Governor Tarullo and Governor Warsh all raised concerns about the first paragraph, and I understand those concerns. I guess my reaction to Governor Tarullo's suggestion is that I think the last sentence still qualitatively describes the modal discussion around the table. I'm happy to be corrected on that, but I'm a little reluctant to change what is a fairly strong signal about the broad outline of the outlook at this point. Perhaps an alternative would be to address a couple of the other descriptive sentences. Let me suggest two possibilities and then see what the reaction is. First, in the second line it says, "Economic activity has continued to strengthen," and I'm not sure that that's actually wrong, President Lockhart, because that's a level statement. Activity is a measure of the level of GDP, and of course, it has continued to grow, but we could say "the economic recovery is proceeding," which I think might be a somewhat less strong statement. Second, Governor Warsh referred to business spending on equipment and software "rising at a robust pace." A very simple fix to that would be to go back to the statement from the last meeting, which just said, "Business spending on equipment and software has risen significantly," which is a fact about recent events and which would not be a change.

Let me get a sense of everyone's reactions. What about returning to the language from the previous meeting on business spending on equipment and software? I'm seeing nodding. Are there any who are opposed to that change? [No response.] All right. Why don't we do that? The other more significant change would be to change, "Economic activity has continued to strengthen," to say, "Economic recovery is proceeding." Could I have responses, views?

MR. TARULLO. Is it clear that that actually softens our sense of the recovery?

CHAIRMAN BERNANKE. Well, it takes out the word "strong" and just says "proceeding."

MR. TARULLO. Right.

CHAIRMAN BERNANKE. But that's the judgment I'm asking for.

MR. TARULLO. It doesn't feel to me that—I could interpret each one either way, so I'm sort of indifferent.

CHAIRMAN BERNANKE. Okay. Does anyone take a view or any other suggestion?

MR. LACKER. Plodding along. [Laughter]

MR. FISHER. Muddling through.

CHAIRMAN BERNANKE. Staggering along.

MR. TARULLO. I'd be in favor of any of those. [Laughter]

MR. EVANS. I assumed you were not liking the word “strengthened.”

MR. TARULLO. That was actually more Dennis than me.

MR. EVANS. Okay.

CHAIRMAN BERNANKE. President Lockhart, let me ask you what you—

MR. LOCKHART. I basically proposed what you just said, and that is the recovery continues to proceed or is proceeding. So I favor that.

CHAIRMAN BERNANKE. How many people favor saying that the economic recovery is proceeding and that the labor market is improving gradually? Charles, Charlie Evans, Lockhart, Rosengren. Jeff, did you—? I see about four. President Yellen. Any others? Who is in favor of keeping it?

MR. FISHER. We can just say economic activity continues. [Laughter]

CHAIRMAN BERNANKE. All right. We're going to wrap this up quickly. Let's do this again. Please raise your hand if you're in favor of changing “economic activity has continued to strengthen” to “the economic recovery is proceeding”? How many are in favor of

that change? One, two, three, four, five, six, seven, eight. That's a pretty high number. How many are in favor of the status quo? Two, three, four, five. Well, it looks like the bears have it. [Laughter] We're saying "The economic recovery is proceeding," and we're also changing the business spending back to the April language. Is that okay? Helpful?

PARTICIPANTS. Yes.

CHAIRMAN BERNANKE. President Bullard?

MR. BULLARD. On this issue of mentioning quantitative easing somehow in the statement, you do have paragraph 4 in alternative A, which is slightly different from paragraph 4 in alternative B, and it makes a little more reference to the fact that we will evaluate the balance sheet going forward.

CHAIRMAN BERNANKE. I think that raises other issues that we've discussed before about what we want to signal about our balance sheet, but your point is noted.

MR. TARULLO. It may be an asymmetric interpretation

MR. BULLARD. Why is that? It just says evaluate the holdings of securities.

CHAIRMAN BERNANKE. Well, because it suggests, as we have discussed before, that we are looking potentially to near-term sales or purchases.

MR. KOCHERLAKOTA. It's coming out of alternative A, though.

CHAIRMAN BERNANKE. Well, that's true. That's because it was including purchases

MR. KOCHERLAKOTA. It's including purchases.

CHAIRMAN BERNANKE. All right. I think I'm a little worried about that.

VICE CHAIRMAN DUDLEY. It's creating an unnecessary ambiguity, I think.

CHAIRMAN BERNANKE. Yes, I'm a little worried about that one for now. All right.

Michelle, do you have everything you need?

MS. SMITH. Yes, got it.

CHAIRMAN BERNANKE. Any other thoughts? President Fisher.

MR. FISHER. I had asked a question, Mr. Chairman, about whether we were crossing the line if we added what we heard from many people about the uncertainty about tax and regulatory requirements. I just want some definition here.

CHAIRMAN BERNANKE. I think referring to political uncertainty would be crossing the line. Putting in general uncertainty might be acceptable, but I'm not quite sure I see where to do that. Do you have a suggestion?

MR. FISHER. No, not for that specific reference, but it is going to come through in the minutes, and that's sufficient. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. All right. If there are no further comments, we'll take the roll, please.

MR. LUECKE. This roll will encompass alternative B as printed on page 4 of the handouts for Brian's briefing on policy alternatives, with the exception that the first sentence will refer to "economic recovery is proceeding" instead of "economic activity has continued to strengthen." Second, it will refer to "business spending on equipment and software has risen significantly" instead of "equipment and software appear to be rising at a robust pace." It will also encompass the directive as printed on page 8 of the handout.

Chairman Bernanke	Yes
Vice Chairman Dudley	Yes
President Bullard	Yes
Governor Duke	Yes
President Hoenig	No
Governor Kohn	Yes
President Pianalto	Yes
President Rosengren	Yes
Governor Tarullo	Yes
Governor Warsh	Yes

CHAIRMAN BERNANKE. Thank you. A couple of quick other items. Brian Madigan will be stepping down before the next meeting, effective July 23, as the FOMC Secretary and Economist. We would like to propose Bill English to succeed him as the head of the Monetary Affairs Division to fill that position for the rest of this year until next January when we will have our annual election. If we move Bill to that position, that would leave open an Associate Economist position. Bill and Jim Clouse have been alternating in that Associate Economist position. So it would be natural to make Jim Clouse the Associate Economist for the Committee, and I'd like to propose that. Any comments, questions?

MR. FISHER. May I just add?

CHAIRMAN BERNANKE. Yes.

MR. FISHER. On behalf of, at least, the Federal Reserve Bank of Dallas, and I think all the Reserve Banks, I'd like to offer an appreciation for the way Brian has conducted himself. He has been very respectful of the input of the Banks, and the courtesy—punctilious courtesy would be the best description—has been truly remarkable. I hope it's noted that his work is deeply appreciated, obviously, by the Board, but also by the Reserve Banks and their staffs.

PARTICIPANTS. Here, here.

CHAIRMAN BERNANKE. Thank you.

MR. MADIGAN. Thank you very much.

[Extended applause]

MR. MADIGAN. Thank you.

CHAIRMAN BERNANKE. Thank you, Brian, for very good work, well done. I need a motion on this.

MR. KOHN. So moved.

CHAIRMAN BERNANKE. Governor Kohn.

PARTICIPANT. Second.

CHAIRMAN BERNANKE. Without objection? Seeing none, the last piece of business is to note that the next meeting is Tuesday, August 10. I am about to adjourn the meeting. The lunch for Governor Kohn will start at 1:00 p.m. in the dining room upstairs. We will now adjourn the meeting. For those of you are interested, Brian Gross is prepared to give us a little bit of legislative update. President Lacker?

MR. LACKER. Another kind of update. This being the first instance that I can recall of a noteworthy athletic event occurring during an FOMC meeting, I thought I'd let you know that the U.S. won 1 to 0. [Applause]

MR. KOHN. Peeking at your BlackBerry.

MR. LACKER. I won't say how I found out.

CHAIRMAN BERNANKE. Thank you. The meeting is adjourned.

END OF MEETING