Meeting of the Federal Open Market Committee on
January 25–26, 2011

A meeting of the Federal Open Market Committee was held in the offices of the Board of Governors in Washington, D.C., starting at 1:00 p.m. on Tuesday, January 25, 2011, and continuing at 9:00 a.m. on Wednesday, January 26, 2011. Those present were the following:

Ben Bernanke, Chairman
William C. Dudley, Vice Chairman
Elizabeth Duke
Charles L. Evans
Richard W. Fisher
Narayana Kocherlakota
Charles I. Plosser
Sarah Bloom Raskin
Daniel K. Tarullo
Kevin Warsh
Janet L. Yellen

Jeffrey M. Lacker, Dennis P. Lockhart, John F. Moore, and Sandra Pianalto, Alternate Members of the Federal Open Market Committee

James Bullard, Thomas M. Hoenig, and Eric Rosengren, Presidents of the Federal Reserve Banks of St. Louis, Kansas City, and Boston, respectively

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

James A. Clouse, Thomas A. Connors, Steven B. Kamin, Loretta J. Mester, Simon Potter, David Reifschneider, Harvey Rosenblum, Daniel G. Sullivan, David W. Wilcox, and Kei-Mu Yi, Associate Economists

Brian Sack, Manager, System Open Market Account

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

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

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

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

Charles S. Struckmeyer,[1] Deputy Staff Director, Office of the Staff Director, Board of Governors

Lawrence Slifman and William Wascher, Senior Associate Directors, Division of Research and Statistics, Board of Governors

Andrew T. Levin, Senior Adviser, Office of Board Members, Board of Governors

Joyce K. Zickler, Visiting Senior Adviser, Division of Monetary Affairs, Board of Governors

Daniel M. Covitz, Associate Director, Division of Research and Statistics, Board of Governors

Gretchen C. Weinbach, Deputy Associate Director, Division of Monetary Affairs, Board of Governors

Beth Anne Wilson,[2] Assistant Director, Division of International Finance, Board of Governors

Bruce Fallick,[2] Group Manager, Division of Research and Statistics, Board of Governors

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

David M. Arseneau, Senior Economist, Division of International Finance, Board of Governors; Stefania D'Amico and Edward M. Nelson, Senior Economists, Division of Monetary Affairs, Board of Governors; Norman J. Morin, Senior Economist, Division of Research and Statistics, Board of Governors

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

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

Patrick K. Barron, First Vice President, Federal Reserve Bank of Atlanta

Mark S. Sniderman, Executive Vice President, Federal Reserve Bank of Cleveland

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

David Altig, Alan D. Barkema, Glenn D. Rudebusch, Geoffrey Tootell, and Christopher J. Waller, Senior Vice Presidents, Federal Reserve Banks of Atlanta, Kansas City, San Francisco, Boston, and St. Louis, respectively

Julie Ann Remache, Assistant Vice President, Federal Reserve Bank of New York

Ayşegül Şahin,[2] Officer, Federal Reserve Bank of New York

R. Jason Faberman[2] and Robert L. Hetzel, Senior Economists, Federal Reserve Banks of Philadelphia and Richmond, respectively

[2] Attended Tuesday's session only.

Transcript of the Federal Open Market Committee Meeting on January 25–26, 2011

January 25—Afternoon Session

CHAIRMAN BERNANKE. We will come to order. The new members of the Committee this year are Presidents Evans, Fisher, Kocherlakota, and Plosser. First Vice President Moore is once again serving for San Francisco. Is First Vice President Pat Barron here?

MR. BARRON. Yes.

CHAIRMAN BERNANKE. This is Pat's last meeting, because he's retiring. Let me congratulate you and thank you for your service in Atlanta. [Applause]

MR. BARRON. Thank you.

CHAIRMAN BERNANKE. This is our organizational meeting, so we have our usual items. The first item is electing Committee officers. Governor Yellen, do you have a motion?

MS. YELLEN. I would like to move the nomination of Ben Bernanke as Chairman.

CHAIRMAN BERNANKE. And I would like it to be known that I meet the residency requirement. [Laughter] Are there other nominations? [No response] In favor? [Chorus of ayes] Opposed? [No response] Thank you. Governor Yellen.

MS. YELLEN. I would like to nominate Bill Dudley as Vice Chair.

CHAIRMAN BERNANKE. Comments? Other nominations? All in favor? [Chorus of ayes] Opposed? [No response] Thank you.

All right, we now turn to the nominated staff officers of the Committee. Debbie will read the list.

MS. DANKER. Secretary and Economist, William English; Deputy Secretary, Deborah Danker; Assistant Secretaries, Matthew Luecke, David Skidmore, and Michelle Smith; General

Counsel, Scott Alvarez; Deputy General Counsel, Thomas Baxter; Assistant General Counsel, Richard Ashton; Economists, Nathan Sheets and David Stockton; Associate Economists from the Board, James Clouse, Thomas Connors, Steven Kamin, David Reifschneider, and David Wilcox; Associate Economists from the Reserve Banks, Simon Potter, Loretta Mester, Daniel Sullivan, Harvey Rosenblum, and Kei-Mu Yi.

CHAIRMAN BERNANKE. Other nominations? [No response] It's a very good group. All in favor? [Chorus of ayes] Opposed? [No response] Thank you.

Next we have to select a Reserve Bank to execute transactions for the Open Market Account. New York once again is willing to serve. Any other nominations? [No response] All in favor? [Chorus of ayes] Opposed? [No response] Thank you.

The manager of the System Open Market Account, Brian Sack, is once again willing to serve. The New York Bank will have to ratify that if he is elected. Other nominations? [No response] In favor? [Chorus of ayes] Any opposed? [No response] Thank you.

The next item is the proposed revisions to the Program for Security of FOMC Information. This is the memorandum that was circulated to you from Scott and Debbie. It makes two changes to the current Program for Security. The most important change sets out a process for investigating breaches of FOMC security that involves an evaluation by the General Counsel and the Secretary in the first round, and then, if a second round is necessary, the Inspector General of the Board has agreed to investigate. Just for clarity, my sense is that we are trying to address breaches related to the discussion of materials prepared for the meeting, such as the agenda, memos, briefings, and other sorts of things that are part of the background for the meeting, as well as descriptions of what happened at the meeting, characterizations of other people's comments, and so on. What we do not intend to address here is the expression of your own views, your own policy assessments, and so on. So we're trying to keep the meeting itself separate and not disclose the items I mentioned.

Regarding the second change, the Chairman already has authority to make special exceptions for disclosure of information, and, obviously, there are legitimate reasons for this. The change now specifies that, in doing so, the Chairman should inform the Committee when those exceptions are made. I would like to note that there are some routine, minor, administrative cases, such as allowing a noncitizen staff member to participate in producing the minutes or assigning the work to a transcriber who works with the tapes. Of course, I will inform you of things like that if you so desire, but I hope that such minor administrative matters of that sort will be excepted.

This memorandum was circulated, and there were no comments. I'd like to open the floor for some brief comments now, and I hope that we can vote on it as part of the organizational section of this meeting. However, if the Committee feels that a more lengthy discussion is necessary, we do have a longer period of time tomorrow on communications, so, if necessary, we can defer it until then. Would anyone like to comment on the memorandum?

MR. TARULLO. May I ask a question about it, Mr. Chairman?

CHAIRMAN BERNANKE. Yes, Governor Tarullo.

MR. TARULLO. Janet, could you give a little more context for the kinds of information that the subcommittee had in mind in thinking about the need for a better, more stringent process? I am thinking of this more as a lawyer rather than as a member of the FOMC, so I think it would be helpful to make sure that everybody understands what actually is being proscribed and why it's being proscribed. For example, there's a lot of information in the Tealbook every six weeks, and I don't think any of us think that information needs to get Class I confidentiality treatment, certainly not as time goes on. So my question, then, is how people, particularly staff, are to be able to distinguish what was intended by the Committee in making these revisions, on the one hand, as opposed, on the other hand, to the literal embrace of the language of the revised regulation.

MS. YELLEN. Our intention was consistent with what the Chairman just said. We're concerned about potential leaks of documents or their contents that are discussed in an FOMC meeting as well as leaks about the substance of discussions, such as who said what. As far as publicizing past data that just happened to appear in the Tealbook, such as historical movements in the exchange rate, I wouldn't think of that as a violation.

We're certainly not trying to be legalistic about this. We wanted to add a procedure to cover what happens if there are violations. It begins with a process of triage in which anything that's reported to the Secretariat would be reviewed by the Secretary, the General Counsel, and the Chairman, and only things that are considered to be significant breaches would go to investigation. I think that section VII tries to make that clear, namely, that things have to be judged to rise above a certain threshold.

MR. TARULLO. Can I give one concrete example? I won't belabor this. Suppose a senior staff person is speaking to a group of academic economists and refers to the staff projections for housing prices over the coming year, something which I, at least, receive only in the form of the Tealbook. Some other memo may produce that information, of course, but that's where I see what the staff expects. Is that information intended to be proscribed or not intended to be proscribed?

CHAIRMAN BERNANKE. I think that would be proscribed because it represents an official view of the staff. However, if the staff member said, "here are some factors that suggest that house prices may decline," without attributing it to the staff or to the Tealbook or to the FOMC, then I think that's acceptable.

MR. TARULLO. Just out of curiosity, does that apply to us, too, for example, during testimony?

CHAIRMAN BERNANKE. Yes. As you know, the Chairman has some special responsibilities, for example, to report to the Congress twice a year and so on. In such testimony, I have talked, for example, about the projections, which, of course, typically come out at about the same time as the testimony, and I described the objectives and the rationale of the Committee. I would argue that that's an appropriate thing to do.

I think it's also fine—and, in fact, desirable—for a member of the Committee to speak publicly along the following lines after, say, a decision made by the Committee: "Here's what we, the Committee, decided. Here's the logic behind this decision. Here's what we think this action may do." I think that is all fine. Again, the things we're trying to avoid are, first of all, the leakage of confidential materials, which are, obviously, not materials that could easily be replicated by any outsider using, for example, FRED from the St. Louis Fed, and, second, the leakage of characterizations of discussions taking place within the meeting, such as who said what. In contrast, discussing the sense of the Committee and the goals of the Committee or the individuals' outlooks and policy views is entirely appropriate.

MS. YELLEN. Suppose something came out in the minutes that described the staff projection, and it happened to say that in this round the staff lowered its forecast for house prices. That would be fine, but anything that wasn't in the minutes about Tealbook projections wouldn't be.

MR. EVANS. In the house price example, it's pretty easy. I usually just say that I've seen a number of analyses from the private sector where many people are calling for a further price decline of 10 percent or whatever, and I would assume that's unobjectionable.

CHAIRMAN BERNANKE. President Hoenig.

MR. HOENIG. My thought is a little different. I don't get too confused on what I can say about data and what it may mean. But when I read articles in the paper that say, "Inside the FOMC there were discussions, and so-and-so said this and so-and-so said that," to me, that's an obvious a violation. In that case, you might call for a review or an investigation—whatever word you want to use.

CHAIRMAN BERNANKE. There are news stories that say that the FOMC is considering options for what to do with their LSAP program, for example. Now, that is something that a reporter could pull together from speeches and interviews that are entirely legitimate. And I don't think that that's necessarily a problem. However, a verbatim or nearly verbatim report of the debate at the FOMC with some of the specific arguments or numbers would clearly be a violation.

MR. HOENIG. Right. It's usually a judgment call, but the clear indicators are when they start going inside the meeting and saying, "This was discussed," and, "here's where so-and-so or such-and-such came out." I think that's where you get the issues.

CHAIRMAN BERNANKE. That's correct. President Lacker.

MR. LACKER. We submit projections for various meetings, but we also talk in public about the outlook, and I'm assuming that that's fair game, namely, that I can report my projection in public and submit the same projection.

MS. YELLEN. I think so.

CHAIRMAN BERNANKE. Yes. President Fisher.

MR. FISHER. I'd like to pick up on Tom's point. It's not just what's said in the meeting; it's also very importantly the materials that were prepared for the meeting. I'm not a lawyer, as you know, so I view this as a sort of housekeeping issue—it's restating an ethic, and the ethic is that we do our utmost to maintain confidentiality of things that others might profit from or otherwise use improperly. I think you basically know what it is and know what it's not. To me, this is just an updating—for example, we had to update the word Greenbook to Tealbook. We worked a lot on this, but the more I thought about it, the more it seemed to me that this is just a housekeeping matter and that we need to bring it into the modern era, particularly given the kind of scrutiny we're getting. I wouldn't read too much into it beyond the fact that we clearly have an ethic here which I think (1) needs to be preserved and (2) needs to be as pristine as possible. How you put a precise legal definition on that is probably beyond my capacity.

MR. TARULLO. Just to be clear, the reason I raise this question is principally because of the staff throughout the System. They're going to be reading something which they were not present at the creation of, and they just need to be able to understand what the implications of this are for them.

MS. YELLEN. Dan, it's our intention to try to devise a set of guidelines for the staff after this is approved for the FOMC.

CHAIRMAN BERNANKE. Other comments? [No response] Are we okay voting on this now? In favor? [Chorus of ayes] Any opposed? [No response] Okay, thank you.

We turn to the next item, authorization for Desk operations. This is the annual authorization, right, Brian?

MR. SACK. Right.

CHAIRMAN BERNANKE. Let me turn it over to you to introduce it.

MR. SACK. Thank you, Mr. Chairman. At its first meeting each year, the Committee reviews the Authorization for Domestic Open Market Operations, as well as the set of guidelines that governs foreign currency transactions.

Regarding the Authorization for Domestic Open Market Operations, I recommend that this authorization be renewed without amendment. Even though I am not requesting any changes, I would like to update the Committee on several items related to the domestic authorization.

First, I recommend that the Committee keep suspended the Guidelines for the Conduct of System Operations in Federal-Agency Issues, as it is unclear whether future transactions in these securities may be necessary to achieve the Committee's monetary policy objectives.

Second, the current authorization allows the Desk to transact in agency MBS for the SOMA through agents, such as asset managers and custodian banks. The Federal Reserve Bank of New York continues to evaluate the extent to which some of the services provided by these agents could be brought in-house. However, some external services are likely to be needed for an extended period, given the unique features of MBS. I am thus asking that this authority be retained.

Third, the Committee authorized the New York Fed, under a resolution passed on November 24, 2009, to conduct small-scale reverse repo operations as needed to ensure the operational readiness of that tool across all types of eligible collateral and with a broader set of counterparties. We anticipate a need to conduct additional small-scale operations during 2011, particularly as additional counterparties are approved. These operations are covered under the current resolution.

Let me now turn to an item that will likely come before the Committee for authorization at a future date. In June 2009, the Committee received an informational memo on a proposed policy to address the occurrence of daylight overdrafts in foreign central bank accounts at the New York Fed by providing intraday liquidity through daylight repurchase agreements, or DLRPs. We have now settled on a proposed procedure for DLRPs, and the New York Fed hopes to obtain approval in 2011 to commence implementation under Regulation N. At that time, I will review the proposal with the Committee and will ask it for a change in the Authorization for Domestic Open Market Operations that would allow the New York Fed to provide DLRPs.

With regard to the authorization for foreign currency operations, the Desk operates under the following set of guidelines from the Committee: the Authorization for Foreign Currency Operations, the Foreign Currency Directive, and the Procedural Instructions with Respect to Foreign Currency Operations. I recommend all three be renewed without amendment. Please note that the vote to reaffirm these documents

will include approval of the System's warehousing agreement with the Treasury.
Thank you.

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

MR. LACKER. Brian, how do the daylight repurchase agreement procedures that you settled on to implement this differ from collateralized daylight overdrafts that all the Reserve Banks make available to domestic banking institutions? And if they differ, why?

MR. SACK. The intent of the policy is similar, of course, in that it's to provide collateral on intraday credit extended. In the course of business for regular FIMA accounts, daylight overdrafts inevitably occur, given the volume of transactions that take place in them. The proposed procedure essentially identifies assets that are currently held in their accounts that will either be earmarked as collateral for these transactions or that, in some cases, could even be moved to a separate account for those who are heavier users. Although it's similar in intent, it's also a little different, because we manage these custodial accounts already, which have assets in them, so it's a slightly different procedure in terms of allocating that collateral for this purpose.

CHAIRMAN BERNANKE. Other questions? Vice Chairman.

VICE CHAIRMAN DUDLEY. I wanted to introduce Julie Remache, who is sitting next to Brian Sack. This is her first time at an FOMC meeting. Welcome, Julie.

CHAIRMAN BERNANKE. Welcome. Other questions for Brian? [No response] Seeing no further questions, are we prepared to vote on these two authorizations? All in favor? [Chorus of ayes]. All opposed? [No response] Thank you.

Now for the entertainment portion of our program, [laughter] the staffs of the Board and the Reserve Banks have prepared a special topic on structural unemployment. I was very impressed with the amount of work and the range of research that's being done on this topic, so

I’m looking forward very much to hearing their overview. Let me turn to Dave Stockton to start it off.

MR. STOCKTON. Thank you, Mr. Chairman. Obviously the issue of structural unemployment has come up quite frequently, and discussions around the table in the last couple of years have involved trying to grapple with the implications of this really deep recession and the sort of imprint it might be leaving on labor markets. Simultaneously, the research community of the Federal Reserve has been hard at work on this issue. While we consider the work we’ve done thus far to be more of a progress report than “the final word” on the topic, last week we did post 10 papers and a rather lengthy summary memo, and I think the page length was roughly equivalent to that of *War and Peace*. [Laughter]

Today we have three presentations that could be characterized as a very intelligent set of CliffsNotes reviewing that work. Bruce Fallick is going to introduce some of the key issues and discuss how the Board staff has incorporated some features of structural change in labor markets into the Tealbook projection. Then Jason Faberman and Ayşegül Şahin will discuss and summarize the large body of research that System economists have been producing, looking at a number of specific aspects of how developments of the past few years may have affected the behavior of labor markets. I’d like to express my appreciation for the very considerable efforts of Loretta Mester, Dan Sullivan, and Bill Wascher in organizing this session. It was, needless to say, a very big job, and they executed it with their characteristic energy and insight. Now I’ll turn the floor over to Bruce.

> MR. FALLICK.[1] Thank you. I’ll be referring to the materials in the packet titled “FOMC Briefing on Structural Unemployment.” Unemployment can be thought of as divisible into two components, one that I will refer to as structural unemployment, and the other as cyclical.

[1] The materials used by Messrs Fallick and Faberman and Ms. Şahin are appended to this transcript (appendix 1).

As outlined at the top of your first exhibit, structural, or frictional, unemployment can be thought of as reflecting difficulties in matching available workers to available jobs. The extent of structural unemployment is determined by numerous factors. One is demographics; for example, young workers move into and out of jobs more frequently. Another is the technology of job search and worker screening, which typically evolves only slowly. Others include imbalances between the characteristics or locations of potential workers and those of vacant jobs. These imbalances may be long-lasting, even generational.

The other main component, cyclical unemployment, is the additional unemployment that arises due to a shortfall in aggregate economic activity. This is the category most closely associated with the typical fluctuations in unemployment over the business cycle and is the most obviously amenable to reduction through policies aimed at stimulating aggregate demand.

We generally view structural unemployment as determining a NAIRU. On this view, inflation is most sensitive to cyclical unemployment, as wages and prices adjust to put underutilized resources back to work.

The line between these categories is often blurry. Consider, for example, a policy like extended or emergency unemployment insurance benefits. Such benefits likely increase unemployment by changing search behavior, thus increasing what might be called structural unemployment. However, the policy itself is a response to the business cycle and can be expected to disappear once labor demand improves sufficiently. Similarly, recent geographic or industry imbalances between the supply of workers and the demand for jobs could be described as raising structural unemployment. But recessions always affect some regions and industries more adversely than others, and these imbalances typically fade as aggregate demand recovers. Each phenomenon requires its own evaluation. However, we would usually not interpret those that regularly accompany recessions, and regularly cease as the economy recovers, as contributing to an increase in the medium-term NAIRU.

The recent recession has raised numerous questions about whether the events that precipitated it, or the features of the recession itself, have raised the level of structural employment. Several phenomena prompted this interest, examples of which are highlighted in the middle and lower panels of the exhibit.

As illustrated at the middle left, the onset of the recession was marked by sharp reductions in employment in the residential construction and financial activities sectors. If these reductions are permanent and the workers displaced from these sectors have a particularly difficult time finding new jobs elsewhere, these shifts in demand for labor could add to structural unemployment. However, as mentioned above, in every recession some industries are hit particularly hard. The panel to the right shows one measure of the dispersion in employment changes across major industry groups. The red line shows the amount of dispersion attributable to normal cyclical variation, while the black line shows the amount of dispersion that cannot be explained simply by the cycle. The black line suggests that the degree to which particular industries have suffered during this episode is not out of line with the overall depth of the recession. And although the cyclical dispersion indicated by the red line is large, it appears to have disappeared as quickly as it did in previous episodes, as the large job losses in several industries came to an end. For this reason, we do not view recent sectoral shifts as a significant source of increased structural unemployment.

Another feature of the recent downturn has been the large increase in the number of homeowners with negative home equity, shown in the bottom left panel. Being “underwater" may inhibit the geographic mobility of these households and thus reduce the speed at which the unemployed among them find new jobs. However, based on the sort of evidence that Ayşegül will review in her presentation, we do not believe that this “house-lock” has, as yet, significantly limited geographic mobility.

Finally, the red line in the bottom right panel shows the rate of permanent job loss; that is, the number of workers who lose their jobs each month with no expectation of being rehired by their previous employers, scaled by the level of employment. This rate moved up sharply during the recession, and although it has moved down from its peak, the outstanding stock of persons unemployed following permanent job loss (the black line) remains high. A permanent job loss will often require a worker to make significant adjustments—to sector, location, or wage—if he or she is to become re-employed, which usually entails a longer period of job search. As was noted in the September Tealbook, the elevated level of permanent job loss has been an important factor in our thinking about an increase in structural unemployment.

Recognizing that these specific phenomena represent only a subset of the factors possibly in play in the current episode and that their individual effects on structural unemployment are both difficult to quantify and possibly overlapping, we have also looked to more aggregate relationships as guides. One important relationship is that between job openings, or vacancies, and unemployment. This relationship, known as the Beveridge curve, is the subject of your second exhibit.

The top panel graphs this relation for historical periods that include the past five recessions and their early recoveries. On the vertical axis is a proxy for the vacancy rate constructed from Conference Board data on help-wanted advertising. On the horizontal axis is the unemployment rate. As one would expect, over the business cycle the vacancy rate and the unemployment rate are negatively related: In each recession, the economy moves along a curve down and to the right. The graph also shows that over the longer term, the curve has shifted position. Shifts in the Beveridge curve are often interpreted as reflecting changes in the amount of structural unemployment. Indeed, the broad shifts observed over the past 40 years—outward during the 1970s, then inward in the 1980s and 1990s—are generally attributable to changes in the age composition of the labor force and the increasing labor market attachment of women.

The lower left panel highlights the past decade, using data from the Job Openings and Labor Turnover Survey, which are not available for earlier years. The decade can be conveniently divided into three periods. The black dots are the period before the recent recession. These data points describe an apparently stable and almost linear Beveridge curve—shown by the dashed black line. The red triangles denote quarterly observations for 2008 and 2009. During this period, the increase in the unemployment rate outpaced the decrease in the vacancy rate as judged by the earlier relation. The blue squares are 2010; during this period, the vacancy rate rose, while the unemployment rate remained almost unchanged.

The observations after 2007 are a striking departure from the straight line suggested by the data for the pre-recession period. However, as noted to the right, there are reasons not to take these deviations at face value as measuring the increase in structural unemployment, a few of which I will discuss here.

First are questions of the underlying shape of the curve. As Jason will explain, a typical theoretical treatment in the literature bases the Beveridge curve on the technology of matching workers with jobs. The properties of this "matching function," as it is known, imply that the Beveridge curve should become flatter as the unemployment rate increases. The green line shows the fitted value of a curve suggested by a typical matching function. This shape for the curve implies smaller recent deviations than does the linear version.

Second, the persistent increases in layoffs that occur during recessions could be expected to raise the unemployment rate more than the green line would suggest. This is not because the matching process itself has deteriorated, but because that process faces such a large pool of newly unemployed workers who need to be matched with jobs. Whether this is best described as a further flattening of the curve at high rates of unemployment or as a departure from the curve, it is a regular feature of recessions that we view as an increase in cyclical rather than structural unemployment.

Third, as one can see in the panel at the top of the page, as the labor market has improved following past recessions, the vacancy–unemployment locus has exhibited counterclockwise loops; that is, vacancies have improved in advance of unemployment. Despite a lack of consensus on the source of these movements, they appear to be a regular part of the dynamics of recovery, which we would not tend to interpret as structural.

However, remaining movements in the Beveridge curve could represent changes in the efficiency of the job-matching process, which we would view as changes in structural unemployment. An effort by my colleagues Regis Barnichon and Andrew Figura to isolate these changes is illustrated in the top panels of exhibit 3. The panel on the left shows a measure of job matching—the flow of persons from unemployment to employment. The black line shows the actual flow, while the red line shows the flow estimated by a model that holds the efficiency of the matching process constant. The gap between the two that opened up during the recession represents the decline in matching that cannot be explained by the other elements of the model and is therefore attributed to a deterioration in matching efficiency. The panel on the top right shows the approximate contribution of this deterioration to the unemployment rate. These estimates suggest that structural unemployment increased by about 1 percentage point by the middle of last year.

Note that the Board staff estimates that the extended UI benefits have boosted the unemployment rate by as much as ¾ percentage point. Some of this may show up as a decline in matching efficiency and thus contribute to the estimated increase in the top right panel. As I mentioned earlier, whether to call this an increase in structural unemployment is not obvious. In the Tealbook we have accounted for it separately from what we call the NAIRU, but included it in the "effective NAIRU," which we use to define medium-term labor market slack. In any case, we expect this element to wane as these programs expire.

As noted above, one reason that we care about identifying structural unemployment is that it provides a benchmark for our estimates of the margin of slack in the economy that influences price and wage pressures. That being so, the behavior of inflation to date ought to tell us something about structural unemployment. As you know, both price and wage inflation have moved down since the unemployment rate began its sharp rise in 2008. Does the extent of this price and wage deceleration suggest that part of the rise in the unemployment rate reflects an increase in structural unemployment?

This is a difficult question to answer given our incomplete understanding of the inflation process. My colleagues Charles Fleischman and John Roberts have developed a model that attempts to address the question by combining a number of economic relationships. As noted in the middle left panel, the model treats the NAIRU and trends in output, productivity, the workweek, and labor force participation as unobserved components. These trends and their observed counterparts are related to each other through such macroeconomic relationships as the Phillips curve and Okun's law and by the assumption that the macroeconomic variables are influenced by a common cyclical element.

Lately we have been looking at a variant of this model that allows for the possibility that the Phillips curve flattened in the mid-1980s. Also, given the earlier evidence that the severity of the recent recession may have caused a relatively large movement in the NAIRU, it allows the NAIRU to be more variable than in previous episodes. The middle right panel graphs the NAIRU estimated by this version of the model. This estimate has risen roughly ¾ percentage point since the onset of the recession.

The bottom left panel of the exhibit shows the current Tealbook assumptions for the NAIRU. We assume that the NAIRU has risen 1 percentage point since the onset of the recession, to 6 percent. Adding our assumptions about extended UI benefits, we put the effective NAIRU as of the fourth quarter of last year at 6.6 percent, implying an effective unemployment rate gap of about 3 percentage points.

A crucial question is how persistent this or any increase in structural unemployment is likely to be. As you can see, the Tealbook assumes that the effective NAIRU falls back to nearly its pre-recession level by the middle of the decade, as the extended UI programs expire, workers and firms adjust their behavior in reaction to imbalances in the labor market, and the general recovery of the economy resolve the structural issues currently in play. We believe this assumption puts the current episode broadly in line with the experience of previous episodes.

There are, of course, risks to this view. For example, as shown in the bottom right panel, the average length of unemployment spells (the black line) and the fraction of the labor force experiencing long spells (the red line) have been extraordinarily high. These long spells raise concerns that the affected workers may find themselves less employable as their skills, reputations, and networks deteriorate, resulting in a persistently higher level of structural unemployment. Although such effects do not appear to have been important in the United States in the past, we recognize that the current unprecedented durations of unemployment may reduce the relevance of historical experience. Ayşegül will have more to say about this concern.

Jason and Ayşegül will now turn to a review of Reserve Bank research on structural unemployment.

MR. FABERMAN. Thank you. I'll be continuing with the same set of exhibits, starting with exhibit 4. As Bruce mentioned at the start of his talk, recently some have speculated that structural factors are a large part of the reason that the unemployment rate is still high. There is no universally accepted definition of "structural unemployment." When Ayşegül and I use the term, it will refer to the amount of unemployment that is not easily remedied by short-run monetary policy.

In our briefing, Ayşegül and I will review Federal Reserve System research on factors that could potentially increase the amount of structural unemployment in the economy. These include extended UI benefits, changes in employers' effort in filling their vacancies, the effects of geographic mismatch, or "house-lock," and mismatch between the skills of the unemployed and the skills required for new job openings. The latter topic may be the notion of structural unemployment most people are familiar with. Ayşegül will also discuss the state of the long-term unemployed and the prognosis for whether the U.S. labor market could fall into a European-style state of hysteresis.

Before detailing the results of this research, we find it useful to couch our discussion within the framework of labor search and matching theory. Central to such theories is the notion of a *matching function*. A standard expression for the matching function is in the top panel of exhibit 4. If it looks eerily similar to a firm's production function, it is because the two constructs operate in very much the same way. A production function maps how much output is generated using a given amount of capital and labor, given the production technology at hand. Similarly, a matching function maps how many matches (or hires) are generated from a given number of job vacancies and unemployed individuals, given the matching "technology" at hand.

The matching function is the theoretical underpinning of the Beveridge curve, whose behavior Bruce discussed during his talk. You can have either movements along, or shifts in or out of, the Beveridge curve. These will represent changes in the mix of vacancies and unemployment, or the amount of hiring that they yield, respectively. Expansions are periods when vacancies are rising and unemployment is falling—they are movements up and to the left along the Beveridge curve, as the lower panel of exhibit 4 shows. Recessions are periods when unemployment is rising and vacancies are falling, so recessions involve movements down and to the right along the curve.

The topic of our briefing is structural unemployment. Going back to the matching function at the top of the exhibit, changes in the amount of structural unemployment will occur through changes in the "matching efficiency parameter," denoted by the Greek letter μ in the equation. A rise in structural unemployment causes a decline in matching efficiency. This, in turn, causes the entire Beveridge curve to shift out, as is shown in the lower panel of exhibit 4. The shift implies that the economy now needs more vacancies to generate the same amount of hires from a given level of unemployment.

People often interpret this as implying that all shifts in the Beveridge curve represent a change in the amount of structural unemployment in the labor market. This is not the case. While all increases in the amount of structural unemployment are reflected as a decline in matching efficiency, not all declines in matching efficiency reflect a rise in structural unemployment.

For one thing, as Bruce explained, a change in the pace of job loss can cause the Beveridge curve to shift out. It increases the number of unemployed and therefore increases the number of people who must now search for new work. As Bruce also noted, when the labor market moves to a new equilibrium, the Beveridge curve tends to exhibit a looping behavior, the start of which can appear as a shift in the curve when one looks at the data. This is because firms can open new vacancies or close unfilled vacancies at essentially no cost, but it takes time for the unemployed to find new work and subsequently move to the new equilibrium.

Another issue with interpretation is that matching efficiency, as measured in the data, will also capture all other things that are not specified in the matching function. This is a key caveat to keep in mind when trying to interpret how much a decline in matching efficiency, or a shift in the Beveridge curve, reflects an increase in structural unemployment. For example, changes in the behavior of workers who quit one job for another can appear as a change in matching efficiency because they will affect how many vacancies are available for the unemployed. This process is similar to what George Akerlof, Andrew Rose, and Governor Yellen referred to in a paper as a "vacancy chain." In these "chains," one group of individuals can only find work after someone else moves further up in the chain and frees up their former position. It is worth noting, though, that some search models address this issue. For example, some redefine the "unemployed" as all individuals looking for work, regardless of their status. As another example, changes in the search effort of either workers or firms will also appear as a change in matching efficiency, if they are not explicitly accounted for in the matching function. When the unemployed search more intensely to find new jobs or firms recruit more intensely to fill their vacancies faster, it will lead to more matches for a given level of unemployment and vacancies.

Using the production function analogy again, these examples imply that measured matching efficiency can operate like the Solow residual. Macroeconomists use the Solow residual as a measure of technological change in the economy, but they are well aware that the Solow residual also captures changes in any factor that is not explicitly part of their production function.

Now, let me move on to the empirical research. An obvious policy that could affect the search effort of workers is the federal extension of unemployment insurance benefits. The eligibility period for these benefits has been extended to unprecedented lengths. Currently, individuals in most states are eligible for up to 99 weeks of benefits. In normal times, they are eligible for 26 weeks of benefits. There are concerns that these extensions reduce the incentive of the unemployed to search for work. There are also concerns that extended benefits cause workers to reject job offers they otherwise would have accepted. The extensions also provide support, of course; for instance, they can provide liquidity to individuals who have exhausted their assets while unemployed, and they can decrease the chance that an individual opts to drop out of the labor force entirely. The result of these responses is that benefit extensions will end up increasing the amount of structural unemployment in the labor market, as we have defined it. At the same time, this increase should dissipate once the policy of extended UI benefits expires.

Several studies across the Reserve Banks have attempted to quantify the effect of extended UI benefits. While these studies differ considerably in their methodologies, they all generally find that extended UI benefits have added between about ½ and 1½ percentage points to the unemployment rate, with most preferred estimates being just under 1 percentage point.

One study, by Rob Valletta of the San Francisco Fed, exploits the differences in unemployment duration over time between job losers and other unemployed individuals. Theoretically, only job losers are eligible for UI benefits. The time series behavior of average unemployment duration for these two groups is illustrated in the top panel of exhibit 5, with the duration of job losers depicted by the red dashed line and the duration of the remaining unemployed depicted by the solid blue line.

Average unemployment duration for job losers increased relative to the average duration for the second group during the recession, but it has since fallen in relative terms. Valletta estimates that the total effect of the behavior observed in the chart was an increase in the unemployment rate of about 0.8 percentage points.

Another study, by Shigeru Fujita of the Philadelphia Fed, exploits differences in the transition rates out of unemployment for individuals prior to and during the extended UI benefit period. In doing so, he exploits the fact that there is a spike in the probability that an unemployed individual either finds work or drops out of the labor force right at 26 weeks of unemployment. This is the time when UI benefits normally run out. The spike for both types of transitions dropped precipitously during the period of extended benefits. The bottom panel of exhibit 5 shows this. The solid blue lines denote transition rates in the pre-extension period and the marked red lines denote transition rates in the extension period. Fujita estimates that the joint effect of both the lower job-finding rate and fewer exits out of the labor force worked to increase the unemployment rate between 0.9 and 1.7 percentage points.

My own research, with Steve Davis of the University of Chicago and John Haltiwanger of the University of Maryland, examines the behavior of recruiting intensity over the business cycle. Recruiting intensity in our setting refers to all efforts firms put forth in filling their vacancies, conditional on the number of vacancies that they post. Increases in our measure reflect firms trying relatively harder to fill their vacancies. This can involve relaxed hiring standards, increased use of informal networks, or job offers with a relatively generous wage. Decreases in our measure reflect the opposite, including stricter hiring standards and a stingier wage offer.

The top panel of exhibit 6 illustrates our measure of recruiting intensity over the 2000–2010 period. The measure is derived from an analysis of vacancy-filling behavior of individual establishments that we then relate to an aggregate measure of hiring. As one can see, recruiting intensity has declined since the onset of the latest recession. It stabilized following the end of the recession but at a substantially lower level, about 17 percent lower than its average over the period. The lower panel of exhibit 6 shows the actual unemployment rate (the blue dashed line) and a counterfactual rate that holds recruiting intensity constant over the study period (the solid red line). It shows that the persistently low levels of recruiting intensity led to higher unemployment. We estimate that its effect added about 1.4 percentage points to the unemployment rate in 2010.

Because the recruiting intensity measure does not isolate the effect of a specific policy (like UI extensions), it captures the effects of both structural *and* cyclical factors that can affect a firm's recruiting behavior. Therefore, while we can quantify the effect of its movements on the unemployment rate, we cannot say to what extent this effect reflects an increase in structural unemployment. If the source of the decline in recruiting intensity were due to something like uncertainty about a specific policy (for example, a fear that the new health care legislation may permanently increase the cost of a hire), then one could consider its effect as an increase in structural unemployment. If recruiting intensity were low because firms perceived the real wage to be too high relative to the qualifications they are seeking, then its effect should be considered cyclical. Unfortunately, our exercise is silent on which cause is more likely.

To sum up, changes in the search intensity of both workers and firms appear to have had a sizable effect on the unemployment rate, though their effects come with caveats. The effects of extended UI benefits are likely structural but should dissipate once the policy expires. Ayşegül will elaborate on this. The effect of low recruiting intensity, while sizable, may be due to a mix of structural and cyclical factors, and the current evidence is silent on which cause may be more important. With that, I turn it over to Ayşegül, who will review the evidence on the effects of mismatch and house-lock on unemployment and discuss the prognosis of the long-term unemployed.

MS. ŞAHIN. Thank you. I will now review some of the work within the Federal Reserve System that has examined mismatch. Mismatch is a broad term that describes an imbalance between the characteristics of unemployed workers and of available jobs. For example, there can be a mismatch between the skill requirements of vacancies and the skills of the unemployed or a mismatch between the location of jobs and the location of workers. As discussed by Jason, greater mismatch in the economy can potentially lead to a higher level of structural unemployment.

I start by reviewing Federal Reserve System research that has analyzed mismatch through comparisons of the experiences of different types of workers, some of whom may be more prone to mismatch than others. To the extent that mismatch contributes to higher unemployment, workers more prone to mismatch should experience relatively worse labor market outcomes.

In my own research with Mike Elsby from the University of Edinburgh and Bart Hobijn from the San Francisco Fed, we have calculated unemployment outflow rates conditional on the industry in which an unemployed individual was last employed. If the need for reallocation across sectors causes a mismatch of skills, workers who were formerly employed in sectors undergoing a structural decline will have a harder time finding new jobs; that is, a rise in mismatch would imply a divergence in outflow rates. As seen in the upper panel of exhibit 7, we have actually seen a convergence of these outflow rates rather than the divergence predicted by a rise in mismatch.

Another way to examine whether there is an increase in mismatch is to look at the unemployment outcomes of different age groups. Relative to their younger counterparts, older workers have lower mobility rates, and they are more likely to experience skill obsolescence. If geographic and skill mismatch are important, younger workers should have relatively better labor market outcomes. The lower panel of exhibit 7, which comes from work by Dan Aaronson at the Chicago Fed, shows that the unemployment rate of workers with at least a college degree who are under age 25 exhibits remarkable similarity to the aggregate unemployment rate during both the recession and the recovery periods. Because young college graduates are a group who are less susceptible to skill and geographic mismatch than the overall labor force, this suggests little role for mismatch.

The figures in exhibit 7 are suggestive, but they do not provide a direct measure of mismatch. I will now focus on more direct measures of mismatch and summarize the results from my own work with Joe Song and Giorgio Topa of the New York Fed and Gianluca Violante of New York University. To assess the importance of mismatch, we ask the following question: Given the distribution of vacancies, would it be feasible to reallocate unemployed workers across markets in a way that reduces the aggregate unemployment rate? This involves comparing the actual allocation of unemployed workers with an ideal allocation that assumes costless worker mobility across labor markets. This ideal allocation requires vacancy–unemployment ratios to be equated across labor markets; therefore, any deviation of a specific market's tightness from aggregate labor market tightness indicates misallocation. Because frictions remain within each labor market, there will still be some unemployment, even under the ideal allocation. The difference between the actual unemployment rate and the unemployment rate implied by the ideal allocation provides an estimate of the effect of mismatch.

Based on this reasoning, we first analyze skill mismatch across 15 major industry sectors over the period 2000 to 2010, computing two indexes. The first, M_u, which is the black line on the upper left panel of exhibit 8, measures the fraction of unemployed workers searching in the wrong labor market relative to the ideal allocation. This index rose from around 0.21 in 2007 to about 0.32 in 2009. It then declined to 0.25 in early 2010 and has since increased slightly. The biggest contributors to the increase in mismatch were the construction, durable goods manufacturing, health, and education sectors.

A more interesting question is what would the unemployment rate have been if these workers were allocated optimally? Our second index, M_h, addresses this question. In the presence of mismatch, the economy generates a lower number of hires for a given level of unemployment and vacancies compared with the ideal allocation, and this index measures the fraction of these lost hires. The red line in the upper left panel of exhibit 8 shows M_h: the fraction of lost hires was 2.8 percent before the recession started, increased to 7.6 percent in 2009, and has declined to around 5 percent since then. This index also allows us to compute a counterfactual unemployment rate that is purged of its mismatch component. The upper right panel of exhibit 8 shows this counterfactual unemployment rate along with the actual one. Before the recession started, the difference between these series was 0.4 percentage points. This is because, as the upper left panel showed, there is misallocation in the labor market even during expansions. By 2010, this difference had risen to 1.2 percentage points, implying that rising sectoral mismatch accounted for around 0.8 percentage points of the increase in the unemployment rate from the start of the recession to 2010.

One drawback of this calculation is that the industry classifications are very broad. The sectoral measures do not capture any mismatch that may occur within these broad sectors. To address this concern, we have computed occupational mismatch measures using the help-wanted online data from the Conference Board. The lower left panel of exhibit 8 reports results for the mismatch exercise for 2-digit occupations. Both the M_u and M_h occupational indexes display patterns similar to those for the sectoral indexes, increasing from 2007 to 2009 and then declining. The lower right panel of exhibit 8 shows the actual unemployment rate and the counterfactual rate implied by the occupational M_h index. Before the recession started, the difference between the actual and the counterfactual unemployment rates was 1.3 percentage points. By 2010, this difference had risen to 2.7 percentage points, implying that occupational mismatch accounted for 1.4 percentage points of the increase in the unemployment rate.

It is important to note that the effect of mismatch on the unemployment rate tends to be higher during recessions. Because the presence of mismatch results in fewer hires, it lowers the job-finding rate in the economy. When separations are high, the pool of unemployed is large, which amplifies the effect of this reduction in job-finding. Our tentative conclusion is that while mismatch has contributed to the increase in the unemployment rate, its current pattern suggests that it is not likely to lead to a long-lasting unemployment problem for the U.S. economy due to its seemingly cyclical nature.

As Bruce also noted, the decline in house prices that accompanied the recession may have caused job applicants to be more reluctant to apply for and accept jobs that would require them to move and sell a home that has negative equity. This phenomenon, which is generally referred to as “house-lock,” appeared consistent with recent data that showed that the rate of interstate migration in the U.S. has reached a postwar low.

However, as several studies within the System have shown, contrary to popular belief, interstate migration did not fall relative to the trend during the recession. The upper panel of exhibit 9 shows the findings of Greg Kaplan from the University of Pennsylvania and Sam Schulhofer-Wohl from the Minneapolis Fed: The significant drop reported in the interstate migration rate was a statistical artifact of changes in the Census Bureau’s procedure for dealing with missing data. The non-imputed data show that interstate migration has been trending downward for many years. Relative to that trend, there was no additional decrease in interstate migration during the economic downturn.

Other studies have found that the house-lock mechanism has only a negligible effect on the unemployment rate. For example, Chris Foote and Richard Ryan from the Boston Fed analyzed the relationship between falling home prices and individual unemployment experiences. The lower panel of exhibit 9 shows their calculations of the average unemployment durations of renters (the red line) and homeowners (the black line) as a function of the percentage change in state-level house prices during the preceding 12 months. While we see a sharp rise in unemployment duration when house-price changes move into negative territory, the difference between the price-duration relationships of owners and renters is relatively small. Even though the house-lock mechanism operates in the right direction, its effect is quantitatively negligible. This conclusion is also supported by my own work with Song, Topa, and Violante. We calculate mismatch measures for 50 U.S. states and find only a minor effect of geographic mismatch on the increase in the unemployment rate.

Finally, I want to discuss the risk of a European-style hysteresis problem for the U.S. economy. Accompanying the big rise in the unemployment rate, the average duration of unemployment peaked at a record high of 34.8 weeks in June 2010. A major concern associated with the rise in long-term unemployment is the possibility that long-term unemployed workers may become increasingly disengaged from the labor market. The upper panel of exhibit 10 presents unemployment-to-employment flow rates for workers with different unemployment durations. As you can see, individuals with longer unemployment spells typically have a lower outflow rate from unemployment into employment. During the recession, these rates had fallen proportionately across duration spells. Recently, however, the recovery of the unemployment-to-employment flow rate has been concentrated among the short-term unemployed. Although this seems to suggest a relative worsening of the outlook for the long-term unemployed, as you can see in the figure, it is actually a pattern observed during previous recoveries.

Overall, it is still too early to tell how the job-finding prospects of the long-term unemployed will evolve during the recovery, since their job-finding prospects have only recently started to recover. In work with Sagiri Kitao of the New York Fed, we take a different approach and try to quantify the risk of hysteresis using a structural model similar in spirit to the seminal work on European unemployment done by Lars Ljungqvist and Tom Sargent. Ljungqvist and Sargent argued that, at a time of increased economic turbulence, generous unemployment compensation might hinder the process of restructuring because it reduces the incentives of job losers to quickly search for and accept new jobs and therefore avoid further depreciation of their human capital. Currently, conditions in the U.S. economy may appear to resemble the conditions described in Ljungqvist and Sargent's study. As Jason discussed, there has been an unprecedented extension of unemployment insurance. Moreover, a disproportionate share of the unemployed has endured particularly long spells. We ask whether these factors are likely to cause a permanent unemployment problem in the U.S.

My analysis with Sagiri finds that even a permanent extension of unemployment insurance benefit eligibility from six months to two years would increase the unemployment rate by less than 1.2 percentage points, which is consistent with the empirical estimates Jason just reviewed. Even under unfavorable labor market conditions, such as a greater layoff risk and accelerated skill depreciation, the effect will not exceed 1.7 percentage points. If UI benefits were paid in perpetuity, then the unemployment rate could move permanently above 10 percent, but because the extension of benefits will likely expire once labor market conditions improve, this is not a likely scenario for the U.S.

Finally, I want to emphasize that, while the jobless in the U.S. are exiting unemployment at a historically low rate, they are still exiting at a faster rate than those in continental Europe. The lower panel of exhibit 10, which comes from my work with Elsby and Hobijn, shows the historical averages of unemployment inflow and outflow rates for selected countries. As seen in the figure, the high rates of both make the U.S. an obvious outlier. Even the current record low outflow rates in the U.S. are still above the flow rates observed in continental Europe.

As summarized in exhibit 11, our review of recent research finds that extended UI benefits, changes in the recruiting behavior of firms, and skill mismatch have had measurable effects on the unemployment rate over the period 2007 to 2010. Studies found little evidence that geographic mismatch or house-lock has contributed significantly to the rise in the unemployment rate. Finally, we do not view a European-style hysteresis a likely outcome for the U.S. labor market. However, because of the high number of long-term unemployed workers, who tend to exit unemployment slowly, a quick turnaround in the unemployment situation seems much less likely than in earlier recoveries.

When interpreting these findings, please keep in mind that these effects are not mutually exclusive and, thus, not additive. For example, an increase in skill mismatch exacerbates the disincentive effects of extended UI benefits. With that, I turn it over to Bruce to conclude.

MR. FALLICK. Thank you. We asked the research staffs at the 12 Reserve Banks to provide estimates of concepts at least somewhat analogous to the Board staff's estimates of the effective NAIRU. The table at the top of the final exhibit shows these estimates, as well as the Tealbook assumptions, for three points: before the financial crisis in 2007, the current time, and 2015, as well as the increase between the first two points. The numbers for the current period include the effects of extended unemployment benefits for the Board and for those Reserve Banks that thought them relevant and included them in their estimates. The lower panels show the estimates graphically, with the larger bubbles representing a larger number of Reserve Banks. The panel to the left shows the levels; the panel to the right shows the increase from before the crisis to the current time. The pre-crisis estimates cluster around 5 percent, although they range as high as 7½ percent. Most viewed structural unemployment as having increased since then, and many expect the increase to be mostly reversed by 2015. The estimated increases are centered around 1½ percentage points, but they range from essentially zero to 2½ percentage points. Moreover, I think I can say without fear of contradiction that a considerable range of uncertainty surrounds each of our estimates. We would be happy to take your questions.

CHAIRMAN BERNANKE. Thank you very much again for very thorough, comprehensive work. Beth Anne, you're available for questions, too, is that right? Yes. Beth

Anne will take international questions. Are there any questions for our colleagues? President Fisher.

MR. FISHER. In the last table, it's not clear to me whether those are our NAIRUs—or what are those numbers?

MR. FALLICK. That depends. Each Bank was asked to provide an estimate of that quantity that the staff thought would be useful in this context. We would describe that as a NAIRU; in other cases it was described as an unemployment rate consistent with price flexibility, or an unemployment rate that is not susceptible to monetary policy. A variety of definitions were provided.

MR. FISHER. I would caution you that it depends on what your thinking was pre-crisis versus post-crisis. For example, a lot of our thinking in Dallas has been conditioned by questioning the basic principle of the NAIRU because of globalization in terms of workforce capacity and the willingness of people to hire and where they wish to hire. So, the Dallas Fed indicates a minimal increase in the NAIRU, but we've been thinking about it this way for years, before the crisis. The work you've done is great, and this has been an illuminating discussion, but I just wanted to know what this table is purporting to show, and I would caution you against reading too much into the table.

MR. KOCHERLAKOTA. I guess what I took from the table—and you can certainly build on this, Bruce—is that there was a considerable range and a considerable amount of uncertainty about each of these points. Would that be a fair conclusion?

MR. FISHER. Well, that was his point. Well-summarized.

CHAIRMAN BERNANKE. Okay. Questions, comments? President Lacker.

MR. LACKER. This is a question for Ayşegül. The notion of mismatch depends critically on the notion of heterogeneity among workers and among worker–firm matches. In the literature on income inequality, there has been a fair amount of effort devoted over decades to the measured dispersion of income across workers. A lot of that work uses detailed demographic data to explain some of those differences, but there's still a fairly substantial amount of variation across workers' incomes that's not attributable to any observable characteristics. My understanding is that the magnitude of that dispersion has increased, that is, the amount attributable to unobservable characteristics has increased. I also have the impression from this mismatch literature and from the excellent introduction given by all of the staff papers that the number of observable characteristics of workers and firms that is used in these investigations is much smaller than in the inequality literature, where you have fairly extensive demographic data. Therefore, you'd expect the heterogeneity that is unmeasured by the econometrician to be much larger here than in the inequality literature results. In your investigation, you've failed to find evidence for mismatch, but of course, there could be mismatch that you're just not measuring. So I wonder if you'd be willing to characterize your sense of the extent to which available data sources, like JOLTS and the others that you've exploited, are able to capture heterogeneity that might be relevant to mismatch or the extent to which there's unmeasured heterogeneity floating around that leaves us uncertain about the conclusion.

MS. ŞAHIN. That's an excellent question. We know from Mincer-style regressions, as you said, that we can only explain up to 35 percent of variation in wages by looking at observable characteristics. So the approach that we took is to try to understand the characteristics of unemployed workers and try to match them with the job openings that we have been seeing. Unfortunately, the biggest restriction while doing this exercise was on the worker side. On the worker side, we could observe the industries and their occupations, but other than that, we could not really observe much. So our hope is to get UI records—from certain states, at least—and try to use information about unemployed workers to come up with more detailed measures of mismatch. We hope these will include demographics, locations of the workers, education levels, experience levels, et cetera.

MR. LACKER. That's interesting. I have another question, Mr. Chairman. The presentation is titled "Briefing on Structural Unemployment." At one point in the discussion, you connected this to the NAIRU, and at another point there was discussion of a category of change in unemployment that was ruled out of your change in structural unemployment on the grounds that it was cyclical. This has me puzzled as to whether there's any reason to care about structural unemployment other than for its implications for policy dynamics and the NAIRU. Do we have an independent interest in some concept called structural unemployment, or is this all about the NAIRU and I should just go back to thinking about economics the way I usually do?

MR. FALLICK. I was trying to represent only the Board staff's view of the matter, which sees it in terms of a NAIRU.

MR. LACKER. I see.

MR. FALLICK. Obviously, as the previous discussion of terminology made clear, I think, there may be a variety of views around the System about whether that equation is reasonable.

MR. LACKER. You have this EDO model that's in the class of post-1970s general equilibrium models, many of which have the property that any shock affecting economic activity affects the NAIRU, and thus, you would expect the NAIRU to fluctuate at a cyclical frequency. I'm wondering whether that property of that model has influenced the staff's thinking about this.

MR. FALLICK. I think it's fair to say that the concepts that are inherent in EDO do not track well the description of structural unemployment that I've given here. Of course, that's only one input into the staff thinking, even in terms of econometric models.

MR. STOCKTON. But obviously we've devoted a great deal of resources to EDO. We're looking at the forecasts of that model meeting by meeting and trying to understand the coherence between those forecasts and those of both of our other large-scale macro models, FRB/US and the staff judgmental forecast. We are paying attention to EDO, looking at its output and thinking about what its implications are for our forecast.

MR. LACKER. Well, in that effort, there are two objectives that I would assume you'd be interested in. One is just the pure forecasting, and the other is policy advising. I think the implications are very different from models like your EDO model, in which the counterpart of NAIRU could be as high as 8.9 percent (which is where I think the St. Louis Fed has it and which is also close to my estimate—no matter what my staff said [laughter]) and from models where your reference level of unemployment—what you call structural unemployment or NAIRU—is, by design, filtering out business cycle frequency influences. The urgency of some of our discussions around here obviously depends on that.

MR. EVANS. Could you remind us what the forces in EDO are that would have the unemployment rate move around the way that President Lacker is talking about? I just don't recall.

MR. REIFSCHNEIDER. Why don't I step in here? First, different DSGE models have different shocks embedded in them, and EDO probably has more than your typical DSGE model. One of the things in EDO is an economywide risk premium shock—that's how it's labeled. That shock explains the overwhelming percentage of the slump that we just experienced. In the identification scheme inside of EDO, that shock doesn't really represent a shock to potential output, so that, in EDO's inflation dynamics, the falloff in output that's driven by that shock is putting downward pressure on inflation. There are other shocks in the model that are not.

MR. LACKER. What other shocks?

MR. REIFSCHNEIDER. Well, there are various shocks in EDO, such as preference shocks, as there would be in any DSGE model. You might say that those are shocks to demand, for example, and those would shift the concept of potential output such that they would tend to minimize the gap. But the biggest thing going on in EDO, the shock that is causing the gap to open up and to be very wide, is, again, this economywide risk premium shock. In other words, the way EDO tells the story is that a very big increase in slack has opened up, and that is putting downward pressure on inflation. A different DSGE model might parse the data very differently: It might say that, indeed, a lot of what we might think of as a falloff in demand in this cycle is having an effect on a flexible-price concept of output, or something like that. I guess the point I want to make is that the identification assumptions used in DSGE models, and one's interpretation of what they would imply for inflation, can yield very different results when you do variations on those identification assumptions. This is something that a number of people have commented on.

If you ask whether a DSGE model would tell the story differently from, let's say, FRB/US, the answer is "maybe—it depends on the DSGE model." So EDO's telling of the tale in a lot of ways is not that different from FRB/US, but another DSGE model, like, say, the Smets–Wouters model, would tell the story very differently. This is a cautionary tale about our ability, as far as econometrics goes, to identify exactly what is driving things.

MR. LACKER. I understand the difference in the results you get from different models, but at a previous meeting you explained to us that you had EDO, a self-contained, general equilibrium model, and then outside of EDO you estimate a statistical trend to capture potential. So when you tell the story told by EDO, you're talking about the story told by the combination of EDO and your ad hoc statistical trend for potential. Am I right about that?

MR. REIFSCHNEIDER. No. I think that, when Mike Kiley was doing the briefing, he pointed out that, in some sense, there are three different concepts of "trend"—let's call it that—in EDO. One is a smooth statistical filter, a Beveridge–Nelson type of thing. Another is a production type of concept, and that would be closer to what's in FRB/US. A third is a flexible-price type of concept, which would be more like what's in a lot of other DSGE models.

Let me come at this issue another way. We can ask: What shocks should monetary policy try to offset, and what shocks should it not try to offset, in the sense that policy can't do anything about them from a social welfare viewpoint? The answer is: It depends on the nature of the shock. Even the economy-wide risk premium shock is an issue. For example, if you thought in late 2008 that the shock represented households that suddenly really hated risk a lot more than they used to, then a policymaker might say, "Well, welfare is such that, if a whole set of household behaviors is changing, then it might be optimal to let that happen. Monetary policy shouldn't offset it." But if, instead, you thought households suddenly felt that the world was a lot riskier than it used to be, then monetary policy might want to offset that, particularly if doing so changes the risk distribution.

Where I'm going—and, incidentally, I'm being pushed in my abilities, because I'm not the best person to talk about this—is back to the issue of the nature of these models. I'm referring both to DSGE models and to models like FRB/US, which is more elaborate. The nature of these DSGE models is that there's a set of identification assumptions used in them from which people will draw welfare implications. I think you could say that it's really pushing the ability of those models in their identification assumptions to say, "Oh, I can draw welfare conclusions from that to say what shocks monetary policy should try to offset and what shocks it should not." I think that's taking it right to the limit. Now, there are definitely different views on that.

MR. PLOSSER. Should that make us more or less comfortable with the view that is produced in FRB/US? If it's that hard to identify these things, the same problems occur in a different context with FRB/US, right?

MR. REIFSCHNEIDER. Oh, yes.

MR. PLOSSER. So you can't really distinguish between these two based on this point.

MR. REIFSCHNEIDER. Ultimately, I think it's hard to say when economics would ever be at the point that it could actually make welfare judgments that you could really trust. But there's another way of looking at it: Suppose the Committee is focused on one side of its mandate and asks, "What level of the unemployment rate or of GDP would be consistent with price stability?" Eventually the answer comes out to be something that you just learn about over time, and, as you learn about it, you revise your views about what potential output or what the labor market slack would have to be. That's something you just have to observe, react to, and then adjust policy accordingly.

MR. LACKER. Thank you. I'm glad we cleared that up. [Laughter]

MR. STOCKTON. That was somewhere between an answer and a filibuster, and I'm not sure which. [Laughter]

CHAIRMAN BERNANKE. President Evans.

MR. EVANS. Whenever we talk about structural unemployment—I realize that there are different definitions that probably are relevant to this—it seems to me that it's inevitably about the limits of monetary policy. There are at least a couple of different views that one could take. One is that you might think that monetary policy is not capable of improving the unemployment rate at any time, in other words, unconditionally that is not really appropriate for monetary policy. If that's your viewpoint, this discussion really is not very important at all, because these issues never come up. Or you could take the view that unemployment is amenable to changes in monetary policy. I take that view. And you could worry about ineffectual attempts to reduce the unemployment rate through monetary policy, that is, the case where monetary policy gets to the point where it can't reduce the unemployment rate without somehow spurring more inflation. I would say that's a very important issue, and that's how I interpret these analyses. If there's another perspective, I'm not quite sure what that perspective would be, and I'd enjoy some discussion of it.

My best assessment of these excellent and very broad analyses is that the contributions of mismatch are relatively small compared with the 9.4 percent unemployment rate, which would imply that there's still room for monetary policy. Another point that seems to come out of this, if I understood it correctly, is that mismatch is relatively transitory. We brought this issue up as a potential obstacle to effective monetary policy actions, and if it were something that is permanent or at least persistent, that would be troubling. But it seems that, as the unemployment rate begins to go down, it's likely that this mismatch is going to decline, too, so the structural unemployment rate will go down. Following that course, I don't think it would have substantial inflationary effects if we were quite accommodative for quite some time. If mismatch is higher, then we should expect to see inflation higher. That's a test for us, and we could respond appropriately.

In terms of the analysis, I do have one question, and I'd enjoy hearing your perspectives on it. I noted that there was not a lot about dispersion in wage growth. There's structural unemployment, and then there are wages, and the questions are how wages might respond and what role monetary policy could have in that. If mismatch were a big deal—with some industries doing poorly, and other industries doing well but struggling to find qualified workers—I might have thought that would show up in wage growth dispersion and that there'd be some sectors where things are pretty strong, so we'd see big differences in wage growth across industries. But my staff showed me data that says dispersion is lower than normal. Do you have any thoughts or comments about that?

MS. ŞAHIN. First of all, I agree with your summary; we were actually surprised to uncover this cyclical component of mismatch. Even if the level of mismatch stays constant, when the economy goes through high levels of separations and the unemployed pool gets bigger, this effect gets amplified. So, as the unemployment rate starts going down, this effect will go down.

In terms of wages, I haven't done any work on that, but the San Francisco Fed's memo written by Mary Daly, Rob Valletta, and Bart Hobijn actually looks at exactly what you said. They looked at the employment cost index and average hourly earnings series for different industries, and they tried to link this to quit behavior. So the question is: Do we see industries that are trying to hire and not managing to do so, and in industries where quit rates are different, do we see anything on wages? They found that there are broad-based movements in wages.

MR. FABERMAN. I would like to add to that, going back to some of the points I discussed—and let me note that this is another thing on which we don't have very good research at this point. Movements in the real wage are also going to affect the response of people collecting UI benefits, as well as how intensively firms go about filling their vacancies. If firms feel the real wage is too high relative to what they're looking for, that's obviously going to affect how selective they are in whom they hire. If workers collecting UI benefits view the real wage as too low, they may keep rejecting offers until they find a wage that's acceptable. So mismatch dispersion measures aren't necessarily the only way to think about how wages are going to be affecting some of the things we're looking at.

CHAIRMAN BERNANKE. President Kocherlakota.

MR. KOCHERLAKOTA. Thanks, Mr. Chairman. I want to thank the authors for their papers, and I want to thank Ayşegül, Jason, and Bruce, in particular, for their thoughtful discussion. I learned a lot from all of the papers. I think what affected my thinking the most was the treatment of the house-lock effect. Before I read these papers, I would have said that was something to be really concerned about, but I came away convinced that it is probably relatively unimportant.

I'm going to say a few words—actually, maybe more than a few. I'm always asked, "What's the biggest surprise since you took over this job?" I don't give the true answer, but I'll give it now, knowing that it will not be revealed to anybody, because it's FOMC-protected, for five years. [Laughter]

MR. TARULLO. Unless it's in the minutes, Narayana.

MR. KOCHERLAKOTA. I think this is not going to make the minutes.

MR. TARULLO. It depends on what you say.

MR. KOCHERLAKOTA. I think the biggest surprise to me was that I managed to be referred to as the “godfather of structural unemployment.” Therefore, I think I have to say more than a few words. First, I’ll say something about definitions. This term “structural” goes back probably to the Cowles Commission, and maybe even before then. Its meaning really depends on who you are and what you’re doing. “Structural” means the things you can’t affect using the policy tool you have in hand. So if I’m the Congress, you know, what I can do to the unemployment rate is a lot more than what I can do sitting here at the FOMC table. I’ll talk about that in a second. I guess I heard two different definitions of structural unemployment, one from Bruce and one from Jason. I really liked Jason’s. For us it’s about what we can do and what amount of unemployment is amenable to accommodative monetary policy.

So how do you think about that? I think the shock that hit our economy in 2007 is basically very much a demand-oriented shock. There was a fall in net worth, there was a shock to borrowing capacity, and investment and consumption demand fell. With a purely classical model, such as a model you’d draw in class, this is going to have very little effect on economic activity, because what happens is the real interest rate just falls immediately and sufficiently to ensure that investment and consumption return to their pre-shock levels. Now, this assumes something about the shape of the supply curve, and I’ll come back to that in a second. But if you have a vertical supply curve, that’s the way it’s going to work.

Now, this is not the way the world works. Why is that? Well, there are three reasons that I can think of and probably more that others could come up with. One is related to the fact that inflationary expectations have stayed pretty well anchored since 2007. And with the zero lower bound on the nominal fed funds rate, this means that the real interest rate probably has not been able to fall enough to return consumption and investment to their pre-2007 levels.

The second problem is that the classical story ignores changes in the demand for labor, in the willingness of firms to hire workers at a given real wage. Some of these changes in labor demand are compositional effects that are lumped under the rubric of mismatch. The work discussed today did a good job of going after this, but basically firms are looking for a different mix of tasks relative to the skills in the labor force. Some of this is obvious; for example, we're probably not going to need as many construction workers in 2015 as we had in 2007. But some of it is, I think, much more subtle. When we talk to firms, we hear over and over again that they have been led to adopt changes in their production methods that will lead them to use a different mix of workers going forward. But some of the changes in labor demand are more aggregative. President Fisher has emphasized this in his speeches; for example, firms anticipate higher future taxes, and they're concerned about regulation, health care legislation, and what kinds of costs those developments will impose on hiring. These are all shocks to labor demand.

Third, there are movements in labor supply, that is, the willingness of workers to supply labor at a given real wage. And, again, there are multiple influences. Higher unemployment benefits will deter labor supply. When I work, I work to spend today, but I also work to spend in the future, so a decline in the real interest rate also leads to a fall in labor supply. In conflict with that is the notion that a fall in net worth usually would lead people to supply more labor at a given real wage. So I've identified three problems with the classical response of instant adjustment. One is that the real interest rate doesn't fall enough, and the other two are these movements in labor supply and labor demand.

Monetary policy is about the real interest rate. That's our job, that's our goal. Our job is to get that real interest rate to go where it's supposed to go. We cannot shift these labor curves. Even if we could get the real interest rate to where we want it to be, that is, even if we could literally make it the minus 400 basis points, say, that the Taylor 1999 rule would call for, labor demand and labor supply changes could still alter the unemployment rate. So, the unemployment rate that will prevail in the absence of price and wage rigidities is what I see as the natural rate of unemployment. The papers that were discussed are about trying to get at this natural rate. I think they do a good job of going after two particular sources of why that natural rate might have moved—the unemployment mismatch and the effect of extended benefits on unemployment.

Now, people's takeaways from this can differ. You can clearly see that from our little chart at the end. Taking into account the nonadditivity of all of these things, I would have said about 2 percentage points of the increase in unemployment could be attributed to these two sources. There are a lot of uncertainties, up and down, so I'm not going to argue that. And it can change over time. We could think the long-term unemployed might lose some skills. Also, unemployment benefits might be reduced. So those go different ways. It could be that the natural rate will go up or down in response to those things.

But the papers are not informative about the other sources of change in labor demand or labor supply. We don't know how much unemployment is due to firms' concerns about future taxes or regulation. And then there's the question of the real interest rate effect on labor supply that I mentioned earlier, namely, when real interest rates go down, people supply less labor, because they're working for today and saving for the future. Well, real interest rates have come down 200 basis points since 2007, if you look at TIPS yields. But in the absence of price rigidities, according to the Taylor 1999 rule, we would have probably lowered them another 400 basis points, some 600 basis points down.

There are two sets of estimates about this real interest rate effect in the literature—the micro estimates, and the macro estimates. I won't even tell you how much of an effect on labor supply you could get out of the macro estimates—the employment-to-population ratio would fall by something like 700 basis points in response to the shock. I think the more plausible estimates come from the micro data, and they would still imply that the employment-to-population ratio would fall by 90 to 150 basis points.

What's the takeaway from all of this? I think Dave's discussion with President Plosser and President Lacker really hit it. You cannot rely just on unemployment. However we try to correct it, using very careful work as our guide to the existence of inflationary pressures, we're going to have to look at a lot of other indicators. I'll talk about some of that later when we talk about economics and policy.

The second lesson is reflected in the Minneapolis Fed memo on improving data. Obviously, my staff members wrote it, and I really like what they did. We talk a lot about it, and I think it's absolutely true that unemployment imposes large losses on the citizens of this country. But there are a lot of key questions that we are struggling to answer, and we struggle because we don't have the data. The right way to approach this is to collect the data. The data might cost millions of dollars to collect, but it might end up saving the economy billions if we have a better idea of how to treat unemployment. So the Minneapolis Fed memo provided some ideas about what kind of data you might want to go after.

I have to say that all of the careful work, with all of the other uncertainties that are layered on top of it, merely convinces me that we're going to have to look at a wide range of things besides the unemployment rate, however corrected, as a measure of inflationary pressures. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. I thought this was very nice work and a very nice presentation—I really enjoyed it and found it a pleasure to read. I'm going to make a couple of comments, and I think they're going to dovetail with the previous discussion here.

I'd say that the takeaway from these ten memos is that the research on this question, as good as it is, is not yet able to provide a satisfactory answer. I'm going to suggest that, to make progress, we have to move away from the partial equilibrium analysis emphasized here and toward more general equilibrium analysis with monetary policy explicitly included. I'm going to give you a rundown of what I think that means and what I have in mind, because there is literature on this.

The question is: Should we analyze the labor market by itself or in the context of a fully articulated macroeconomic model with monetary policy included? I think the answer is that you've got to have the fully articulated model in order to get the answer to the question that we face around this table, namely: How much impact can monetary policy have on unemployment?

Work in this direction does exist, although it was not stressed in these memos, so I am going to stress it here. The literature began in the 1990s with papers by David Andolfatto in the *American Economic Review*, and Monika Merz in the *Journal of Monetary Economics*. They used a very basic idea, namely, to take Diamond–Mortensen–Pissarides labor search theory and merge it into otherwise standard business cycle models. If you go through all the pain of doing that, the model will produce a business cycle, but then there will be frictional search-theoretic unemployment, which will also fluctuate in response to shocks to the economy. The unemployment in that model is an equilibrium unemployment rate, and it is bouncing around all the time as the economy gets hit by shocks. But there are no other frictions in those models, and there's no monetary policy at all. I would say that those papers were moderately successful and surely pointed the way for future research—these authors were writing before the modern era of New Keynesian macroeconomics really got started.

Since the publication of those articles, there have been a lot of contributions, in particular, the sticky-price New Keynesian macro models associated with Mike Woodford and others. Therefore, the natural question would be, if you took that kind of a monetary policy model, but with no unemployment, could you put Diamond–Mortensen–Pissarides into it and get a sensible answer to these kinds of questions? The answer, actually, is "yes," and it has been done. One example I know of is Mark Gertler, Luca Sala, and Antonella Trigari recently in the *Journal of Money, Credit, and Banking*. What do they do? They take the same kind of exercise as in Andolfatto and Merz, but they put it in Woodford's model of monetary policy. In this model, then, there's labor search-theoretic unemployment, and the level of unemployment is going to be fluctuating in response to shocks to this economy, so you might very naturally call this the natural rate of unemployment or the equilibrium rate of unemployment. But in this model, because of sticky prices, the unemployment rate that you actually observe will not be equal to this frictionless or search-theoretic unemployment rate. And, because there is a gap between those two unemployment rates, it is going to be the natural variable of focus for monetary policy. It is what you would be trying to determine, and it is what you would be trying to reduce in the model.

Gertler, Sala, and Trigari actually do calculate this, and, for those of you who have stayed with me this far and are interested, you can check their figure 7, which actually plots it pre-crisis, which is when they wrote the paper. You could calculate it post-crisis—it's an exact analogue of the New Keynesian output gap.

I think this is the most promising way to think about this issue. Of course, these calculations are complicated; furthermore, I think we heard Dave Reifschneider saying earlier that he doesn't really trust these models yet, which is very sensible. But, at the same time, conceptually, this is definitely the way to go. We've got to get busy and work on this and go forward. I think it is important to pursue this line of research and try to make further progress in this area.

What is the bottom line intuition? I think it works this way: The economy is hit by a large shock, which generates a lot of unemployment, but that would happen whether prices were sticky or flexible. So the relevant variable for monetary policy would be the difference between the sticky-price and the flexible-price levels of unemployment. This difference is likely to be small, so I would look at the high level of unemployment as not being very informative for monetary policy at this point. Also, there would be a great deal of uncertainty about the size of this gap. If we do further research, we might be able to pin this down better—we might be able to reduce that uncertainty, and we might be able to change the intuition, because maybe the intuition is wrong. That's what research is for, and the assessment remains to be seen. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Evans, do you have a comment?

MR. EVANS. I wanted to pick up on something very interesting that President Kocherlakota raised and that ties in to some commentary that President Fisher has made before. Narayana started off by talking about whether or not something is invariant to a monetary policy intervention. As I have understood President Fisher's comments, businesspeople are very concerned about new regulations, health care reform, and so on, in part because they don't know exactly how much that is going to cost. I have heard this from them myself. These higher labor costs induce them to change their production processes, in part to go towards a higher-skilled and higher-wage worker. That's part of a capital–labor choice, and it depends on relative prices.

My thought is that something that is perhaps not invariant to monetary policy is wages. There's a lot of resource slack out there, a lot of people unemployed. And if wages were lower, that would be an offset to these business costs, right? I tried to engage my directors on this point at our last meeting. I acknowledged the commentary about higher business costs and asked what if real wages were 20 percent lower—I purposely chose an outlandish number. Interestingly, they just refused to engage in that discussion. Instead, in their commentary, they talked about demand effects, saying that they really are not comfortable that the demand is going to be there. So I think that unemployment that is attributable to firms' concerns about higher business costs is potentially amenable to monetary policy, in the sense that a hike in prices in an environment of sticky wages could lower real wages. I agree completely the question is: What is invariant to policy? And I think that if you think about this more carefully, there are a lot of things that can be affected by policy.

CHAIRMAN BERNANKE. President Kocherlakota.

MR. KOCHERLAKOTA. I agree with this wholly, that is, that rationing shows up in the labor market because the real wage is too high to hire more people. Indeed, I have this same conversation you described having with your directors, and the response is, "Wages? Wages don't matter. What matters is the quality of human being we're hiring." To be honest, I think they think this because they have a nominal wage set in their heads for a particular job, and that's it, that's the end of the story. The tenor of my remarks is not to say, nor do I believe I have ever said, that sticky nominal wages are not part of the issue. I think that that is captured in our ability to adjust the real interest rate. If we can get it down far enough, then basically the real wage will adjust to clear labor markets as well. We have one instrument—with large-scale asset purchases added on, et cetera.

MR. EVANS. My own view is that we've been in a liquidity trap, and we're stuck at this interest rate, so higher inflation is one aspect that would lead to a solution.

MR. KOCHERLAKOTA. I'm sympathetic to that—you and I agree on the concepts. The question is the quantities, and, unfortunately, those are hard to come by, and I suspect it will remain hard to do so even if I looked at the Gertler, Sala, and Trigari paper.

CHAIRMAN BERNANKE. President Fisher, did you have a comment?

MR. FISHER. I have asked the same question. I think the answer is that employers find lower-wage workers outside the domestic workforce. So that's the release valve. Nobody wants to say, "Well, you know, I'm willing to pay someone a substantial fraction of what we paid them before." It's socially unacceptable, and it's not necessary, because they have options. This is what globalization is all about. So I think it is effected by looking to other workforces.

CHAIRMAN BERNANKE. Anyone else?

MR. FISHER. Maybe it's not the world we want, but that's the world that we live in. Whether you like the social philosophy or not is not the issue. It's a question, Mr. Chairman, it seems to me, of another source of friction, but you have pointed out that this is just one source of friction. If you are trying to allocate capital, it affects the capital allocation decision. That's the simple point that I've been trying to make.

CHAIRMAN BERNANKE. Well, you have identified a concept economists have talked about called efficiency wages, which is that people's effort may depend on the wage they receive, so cutting wages may not be a good strategy. Anyone else have a question or comment?

I'd just like to say a few words—and I'm going to regret this. [Laughter] What President Bullard, as well as, I believe, President Kocherlakota and President Lacker, described was a much more complicated machine with all of the pieces—that includes monetary policy, it includes the real side, it includes labor supply, and so on—which recognizes that if there's a big shock, then everything is going to move to some extent, including what we would think of as the natural rate of unemployment. But I think that, even though the terminology is different, the concepts are not unrelated. In particular, the point that you're making is that what FRB/US calls *U** depends on lots of things, and it can move around. And these studies were trying the best they could to get an empirical grip on how much it has moved. Knowing how much it has moved is important, because, as Charlie was saying, it helps us estimate how much space we have in terms of monetary policy expansion, what the unemployment rate will likely be five or ten years from now, and what the determinants of inflation and other things will be. But, as you point out, there are a lot of factors affecting *U**, so all the presenters can say is that they have tried to identify some of the important ones and tried to give quantitative estimates of how big they are. But, clearly, as in all of the problems we face, everything is moving, and that makes it more complicated, certainly. President Kocherlakota.

MR. KOCHERLAKOTA. I certainly agree with everything that you said, Mr. Chairman. When I hear people talk about this, there's a distinction between structural things, that is, things that are moving more long term, and cyclical things, that is, things that are moving at a cyclical frequency, or medium term, shall we say. I think some of the things that happen at a cyclical frequency are not so amenable to monetary policy, and they pose challenges for us to correct using our main instrument, which has been the real interest rate, so I'm not sure that's the right distinction.

In the discussion today, the story was, "Well, mismatch is small, so that means there is clearly room for monetary policy to be accommodative." That step in logic is not clear to me, because many other factors can move *U** around. Let me note that I absolutely don't want to undercut the value of the work that was presented: The papers were very good, and I learned a lot from them. It's just that there are lots of other factors, that's all.

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. I agree, as well, with everything you said and with what President Kocherlakota said. Just to cast this in a different light, let me note two things. First, the exclusion of cyclical from a definition of "structural" is to some sense a priori. And what we've learned from the models we've developed and explored and done a lot of research on since the 1970s is that that's a poor assumption and that there are a lot of models in which that just isn't true. I think that is part of the fault line here. Second, I would point out the distribution of estimates of how much room we have. We're at 9½ percent unemployment, and we have estimates that we're anywhere from 4¼ percentage points to 0.6 percentage point away from our mandate-consistent unemployment rate. There's a substantial difference in the sense of the urgency one would attach to conducting policy in a way to reduce unemployment. So it's consequential for policy.

CHAIRMAN BERNANKE. You can also define "structural" and "cyclical" in a statistical sense. Whatever model you can write down, unemployment in the real world tends to come back to more or less the same level after a business cycle is over. There's a very sharp pattern of rise and slow decline back to a normal level.

MR. LACKER. Right. But there's nothing in a statistical approach that connects that, without any other assumptions, to what we can do with policy. Right?

CHAIRMAN BERNANKE. Well, there are the relationships with that to inflation, for example. Any other comments? Yes.

MS. ŞAHIN. I would like to make a quick comment about the DSGE models with search frictions. In my opinion, they have two major shortcomings. The first one is that generally they assume complete markets, and, in a model where we assume complete markets, policies like unemployment insurance are completely irrelevant, so we can't really understand their effects. The other shortcoming is that generally workers are homogeneous, which makes it harder to study issues like mismatch. These were the two main reasons that we wrote the papers as we did.

CHAIRMAN BERNANKE. Thank you.

MR. FABERMAN. I just wanted to add to that. I agree that moving towards models that incorporate search frictions into a New Keynesian or any other type of DSGE model is a great way to go. But there is one note of caution about search models in general—regardless of whether they're embedded into an RBC [real business cycle] model or some kind of New Keynesian model—that I'd like to bring to the Committee's attention. People who write down theories of labor market search incessantly fight each other about how the wage is determined in the bargaining between workers and firms. Dozens of models have different ways to do it, and those ways vary quite a bit in the flexibility of that wage in the aggregate. Some are completely flexible, such as the standard Mortensen–Pissarides type models. Other models, such as those in work by Rob Shimer and Bob Hall, incorporate wage rigidities, both in a nominal sense where the price is actually sticky, and in what the workers' outside options are relative to what they're being offered.

My main point is that, in terms of thinking about policy and the real interest rate and what's going with the real wage, in these models, the definition of the real wage is very muddy. I don't know how much simpler it's going to make your life to use them, because, while they helped introduce search frictions and some heterogeneity and new ways to think about the labor market, they also add new complications precisely in the wage, the one thing you want to think about the most with monetary policy.

CHAIRMAN BERNANKE. If the Senate had had the good sense to confirm Peter Diamond, we could have wrapped this up in 10 minutes. [Laughter] All right, I understand that coffee is ready, so let's take 20 minutes for a break.

[Coffee break]

CHAIRMAN BERNANKE. For the next item on our agenda, let me turn to Brian Sack for an update on financial conditions.

> MR. SACK.[2] Thank you, Mr. Chairman. I'll be referring to the materials labeled "Financial Market Developments and Desk Operations." Over the intermeeting period, financial markets continued to develop in a manner that reflected an improving economic outlook and that, in turn, should provide support to economic growth.
>
> As shown in the upper left panel of your first exhibit, Treasury yields largely leveled out following their sharp increases in the last two months of 2010. On balance over the intermeeting period, Treasury coupon yields moved up 5 to 15 basis points, with the 10-year yield now trading around 3.4 percent.
>
> With yields having stabilized to some degree, it may be a good time to look back and assess why yields moved up so sharply in the period following the November FOMC meeting. To a large extent, the sharp selloff in Treasury securities over that period was driven by greater optimism among investors about economic growth prospects and the anticipated policy response from the Federal Reserve in terms of both short-term interest rates and its balance sheet.
>
> As shown to the right, investors brought forward the expected timing of increases in short-term interest rates, with the implied policy path from federal funds and Eurodollar futures rates now approaching 50 basis points in the first quarter of 2012.

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

Although the Desk's survey of primary dealers indicates that they see the first rate hike as most likely to occur later in 2012, investors apparently see enough risk of earlier tightening actions to pull up the futures curve significantly by the first quarter of next year.

At the same time, market participants have reduced their expectations for the cumulative size of the Federal Reserve's asset purchase program. As shown in the middle left panel, the primary dealer survey suggests that expectations have solidified around $600 billion for the size of the program. According to the survey, no dealers expect the program to stop short of that amount, and only five dealers expect the program to extend beyond it.

These two developments—the shift in short rate expectations and the scaling down of expected asset purchases—were cited by the primary dealers in the Desk's survey as the most important factors lifting Treasury yields over the past three months. Our own empirical modeling suggests that these two factors explain a substantial amount of the increase in yields but not the full magnitude of the increase.

Another potential factor is that the term premium may have simply reached levels that were lower than could be justified, even taking into account the effects of the asset purchases, in which case some upward adjustment was inevitable. Indeed, as shown to the right, the Kim–Wright model estimated by the Board staff suggests that the term premium at the 10-year maturity point had moved below zero and that the recent selloff has returned it to within its historical range.

The rise in longer-term yields did not seem to reflect unusual concerns about inflation prospects. Indeed, market participants generally believe that the expected paths of short-term interest rates and the balance sheet will deliver inflation outcomes that are consistent with the FOMC's objectives. As shown in the bottom left panel, the five-year, five-year forward breakeven inflation rate moved modestly lower over the intermeeting period, remaining at levels consistent with moderate inflation over the longer term. The five-year breakeven inflation rate instead continued its upward trend over the intermeeting period, as further increases in energy prices and a stronger cyclical recovery are expected to pull inflation up from its relatively low level.

Before leaving this exhibit, let me highlight one other risk that has come into focus in the Treasury market, which is the statutory debt ceiling. As shown to the right, without any changes to the Treasury's Supplementary Financing Program, the debt ceiling would be projected to become binding by mid-March, as indicated by the light blue line. To provide it with additional room under the ceiling, the Treasury plans to announce on Thursday its intention to reduce the balance of its Supplementary Financing Account from $200 billion to $5 billion, which it will achieve by allowing nearly all of the bills that fund this account to mature without replacement beginning in early February. With that adjustment, the projected point at which the debt ceiling will be reached moves back to mid-April, as shown by the dotted line. Of course, the Treasury has a set of other tools that it can employ, which by our estimates would push back the timing of hitting the debt ceiling until late June.

Your next exhibit focuses on recent developments in U.S. asset markets more broadly. Equity markets continued to advance at a robust pace, with the S&P 500 index gaining another 3½ percent over the intermeeting period. The equity market has been buoyed by improving prospects for economic growth and continued strength in corporate earnings. As shown to the right, the S&P 500 index has now gained more than 20 percent over the past five months—a pace that has only been matched on a few occasions over the past 15 years. Despite these gains, the staff is not unusually concerned about valuations in the equity market, largely because this rally began from a point at which valuations, by many measures, looked relatively cheap. Nellie Liang will go through some of the staff's measures in detail in her portion of the chart show.

Corporate bonds also advanced notably, with yield spreads narrowing for investment-grade and high-yield issues, as shown in the middle left panel. This advance was driven in large part by the same factors supporting equity prices. In this case, however, some valuation measures are starting to look stretched, and sizable further gains from this point might be cause for concern. Corporate bond issuance remained robust over the intermeeting period, as it picked up following its usual lull at year-end.

Investors also showed increased appetite for other fixed-income instruments, including a range of securitized credit products. As shown to the right, spreads on commercial mortgage-backed securities narrowed significantly, and a decent pipeline of CMBS issuance is lined up for the first quarter. Private-label residential mortgage-backed securities also experienced better pricing in recent months as well as some improvement in liquidity, but of course this market remains inactive in terms of funding new issuance. Investor demand for consumer-related ABS was also strong, with the yield spreads on those instruments, the blue line in the panel, remaining at low levels. Lastly, investors continued to show increased appetite for syndicated loans, and the terms of such deals have loosened modestly.

While investors are seeking additional return by moving into these asset classes, this shift does not appear to be accompanied by the leverage trends that occurred during the credit boom, as reviewed in the financial stability memos circulated to the FOMC ahead of the meeting.

Despite the better sentiment about U.S. growth prospects, the dollar depreciated against most currencies. The decline in the dollar in part reflected the fact that foreign growth prospects also improved notably and that investors were shifting into riskier assets. In addition, the euro received a boost against the dollar from an improvement in investor sentiment in response to the successful rollover of government debt by some peripheral European countries and the anticipation of a more comprehensive policy mechanism for achieving stability. The improved sentiment resulted in some easing of the pressures on dollar funding for European financial institutions. Indeed, as shown to the right, the dollar funding rate that can be achieved through FX swaps declined notably.

Overall, financial markets have been incorporating an increasingly optimistic outlook for the economy. However, it should be noted that a number of significant risks remain. The primary risks recognized among investors today include the ongoing stresses in the euro area, the concerns about credit risk in the U.S. municipal bond market, the prospective policy responses in emerging market economies—notably China—to rising inflation and heavy capital inflows, and the range of regulatory and financial uncertainties facing the U.S. financial sector. Many aspects of these risks will be covered by Nellie Liang and Steve Kamin in their presentations.

Your third exhibit summarizes recent Desk operations and market expectations for future balance sheet actions. As of last Friday, the Desk had conducted $236 billion of purchases of Treasury securities since the schedule released after the November FOMC meeting. That total includes $167 billion of the $600 billion expansion of the portfolio that was announced in November, and $69 billion associated with the reinvestment of principal payments on agency debt and mortgage-backed securities. As planned, the maturity distribution of the Desk's purchases, shown in the upper left panel, has resulted in an average duration of about 5½ years for the securities obtained.

The operations continue to go well. Dealer participation has remained robust, and we have purchased a fairly wide range of securities. In several recent operations, though, we have ended up purchasing larger amounts of on-the-run issues, which could be a sign that dealers are beginning to find it more challenging to source off-the-run issues to offer to us.

We continue to feel that our purchases are not causing significant strains on the liquidity or functioning of the Treasury market. The deterioration in market liquidity that was seen late last year, evidenced by the decline in the depth of market quotes shown to the right, turned out to be a year-end phenomenon, as we had expected. Quote depth has moved back towards its previous levels, and other measures, such as trading volume or bid-asked spreads, suggest that market liquidity remains decent.

Going forward, under the current directive from the FOMC, the Desk intends to continue purchasing at a pace that will expand our security holdings by about $80 billion per month. The overall pace of purchases will also incorporate reinvestment flows, projections of which are shown in the middle left panel. We now expect those reinvestments to be somewhat slower than previously expected because of the effects of the backup in interest rates on MBS prepayments.

In terms of other operational efforts of the Desk, I should note that CUSIP aggregation of our MBS holdings has gotten under way. So far, we have finished exactly one aggregation—CUSIP number 31419A3T2—which combined 47 of the CUSIPs we hold. Because we are consolidating about 30,000 CUSIPs in total, we still have a ways to go, but at least the first one worked without a glitch.

The final three panels of the exhibit present some results from based on the Desk's primary dealer survey on how policymakers are expected to manage the

Federal Reserve's balance sheet going forward. As shown in the middle right panel, market participants expect the FOMC to gradually shrink the SOMA portfolio over time. The median respondent thought that the size of the portfolio would begin to move down slightly in 2012 and would then decline by about $1 trillion over the subsequent three years, bringing it to just under $1½ trillion by the end of 2015. While there was a range of responses around that path, all of them showed a gradual decline.

To achieve that gradual decline, market participants thought that the FOMC was likely to employ some combination of redemptions and asset sales. The bottom left panel shows the probabilities assigned to halting reinvestments of principal payments in each of the asset classes. As can be seen, the odds assigned to halting reinvestments within the next two years were sizable. The interquartile range of the responses (shown by the light blue bar) ranged from roughly 50 to 90 percent for agency debt and MBS, with a median response (shown by the tick mark) at around 75 percent. The range of responses for Treasury securities was much wider but also reached quite high levels. In all cases, the perceived probabilities were considerably higher for the five-year horizon.

Respondents were asked the same question about the likelihood of asset sales for each type of security. As shown to the right, the perceived odds of asset sales occurring within the next two years were much lower, with the median respondent seeing only about a 20 percent chance of sales for each asset class. Over the five-year horizon, though, the chances of asset sales were seen as much more substantial. Interestingly, the odds placed on selling Treasury securities were generally higher than the odds of selling mortgage-backed securities.

Your final exhibit presents a brief summary of the staff's forecast for Federal Reserve income and its assessment of the risks surrounding that forecast, drawing on the memo that was circulated to the Committee last week.

To project the income from the SOMA portfolio, the staff had to make assumptions about how the portfolio would be managed and how market interest rates would evolve. For the portfolio, the baseline projection follows the Tealbook assumption that the FOMC completes the $600 billion in purchases and does not begin redeeming maturing securities or selling assets until 2013. Accordingly, as shown in the upper left panel, the size of the SOMA portfolio levels out at $2.6 trillion until early 2013. At that time, the FOMC is assumed to begin redeeming maturing holdings of all asset types and then, later that year, to begin a process of gradually selling its MBS holdings over five years. Under those assumptions, the size of the portfolio begins to decline and returns all the way to its steady-state level by 2016. At that point, the Federal Reserve begins to purchase Treasury securities in enough size to offset the reduction in agency debt and MBS and to increase the portfolio as needed to meet currency demand.

The panel to the right shows the interest rate assumptions under the baseline scenario. The federal funds rate is assumed to begin increasing in March 2013 and to rise about 400 basis points over the subsequent three years. The 10-year Treasury yield instead begins to rise immediately and moves up by a considerable amount, reaching about 5 percent by the end of 2014. In the long run, the yield curve settles down with the federal funds rate at around 4½ percent and the 10-year yield at around 5¼ percent.

The baseline results for the income from the SOMA portfolio are shown in the middle left panel. This chart shows the total net income from the portfolio as the red line, and the major components of that income as the bars. As can be seen, net income from the SOMA portfolio remains elevated through 2013, driven primarily by the coupon income generated by the size of the portfolio. SOMA income then falls notably through 2016 as a result of several factors. First, coupon income (the dark blue bars) begins to decline as the size of the portfolio shrinks. Second, the funding cost of the portfolio, which is essentially the interest paid on the reserves created (the light blue bars) begins to increase as short-term interest rates rise. Note that this cost peaks in 2014 and begins to decline thereafter, even though short-term interest rates continue to rise, because the amount of reserves in the system is declining. And third, the SOMA realizes capital losses (the green bars) on the securities that it begins selling. Once we get past 2016, the coupon payments from the portfolio begin to lift total net income, even though capital losses continue to be realized through 2018.

The total net portfolio income is repeated in the panel to the right, only now expressed as a range to reflect the alternative modeling methods used in the memo. To translate this portfolio income into remittances to Treasury, we have to adjust it for other sources of income, operating expenses, dividends, and additions to capital. The path of Treasury remittances associated with this baseline scenario is shown in the chart. As can be seen, even at their lowest point, remittances to Treasury are projected to remain sizable, at over $25 billion. That trough is comparable with the average level of annual remittances over the 10 years preceding the balance sheet expansion.

Thus, the expected path of Federal Reserve income and remittances to the Treasury are favorable under the baseline scenario. In fact, asset purchases turn out to be quite profitable in that case, adding about $70 billion to Federal Reserve income over the 10-year period shown. Nevertheless, there are considerable risks to the path of Federal Reserve income.

The bottom left panel focuses on the effects of higher interest rates. As described in detail in the memo, we consider an alternative scenario in which the federal funds rate begins to rise in June of this year and follows a path that is roughly 200 basis points higher than the baseline scenario. The 10-year Treasury yield accordingly rises more quickly, moving roughly 100 to 150 basis points above the baseline over the next several years. As can be seen in the bottom left panel, remittances to the Treasury in this scenario fall to near zero. The downward pressure on income results from higher funding costs for the portfolio and larger capital losses on the assets sold.

The bottom right panel focuses on the effects of faster asset sales. The scenario assumed in the memo involves selling all of our MBS holdings over an 18-month window instead of the 5-year window in the Tealbook baseline. This policy approach would be aggressive, as it would necessitate MBS sales at an average pace of about $40 billion per month. The resulting increase in the supply of securities to the market is roughly equal to the average pace of net issuance of agency MBS generated by the entire market at the height of the housing boom. The more aggressive sales, if begun at the same time as in the baseline scenario, would return the size of the SOMA portfolio to its steady-state level about a year earlier than in the baseline scenario.

Treasury remittances under the more aggressive sales scenario decline more quickly, as shown by the red line. The primary reason is that selling more quickly compresses the capital losses that would be realized over five years into a shorter period. As a result, remittances to Treasury suffer sharply in those years, but are then higher in the latter parts of the forecast period. Under the specific assumptions made in this scenario, remittances remain positive.

Not surprisingly, the most significant effects on Federal Reserve income occur if faster MBS sales were to take place under a scenario of high interest rates. In that case, the capital losses are larger and, hence, compressing them into a shorter period can easily push Treasury remittances to zero. In the memo, we presented an income projection under the high interest rate path described earlier and asset sales that are as fast as the one just described but that are accelerated to begin this year. Under those assumptions, as shown by the light blue area, remittances to Treasury fall to zero for a period of two years, and a deferred credit asset of between $5 and $35 billion would be realized on the balance sheet.

In closing, it should be noted that there is a wide range of possible outcomes for Federal Reserve income, as markets and policy decisions can evolve in a number of directions that can differ from the scenarios presented in the memo. Our intention is to provide you with a few potential outcomes to serve as useful reference points. Thank you. That concludes my prepared remarks.

CHAIRMAN BERNANKE. Thank you, Brian. Are there questions? President Plosser.

MR. PLOSSER. Brian, you mentioned changes to the Supplementary Financing Program, and you said it was now something like $200 billion. Is that right?

MR. SACK. Right. The current balance is $200 billion.

MR. PLOSSER. Is that reflected in the balance sheet scenarios that you work out later?

MR. SACK. In the income projections? Yes.

MR. PLOSSER. I'm referring to income and size of the balance sheet going forward, and I ask because that will raise the size of our balance sheet by $200 billion, right?

CHAIRMAN BERNANKE. It raises only the reserves.

MR. ENGLISH. It doesn't change the size of our balance sheet. It changes the composition of our liabilities.

MR. SACK. It would have a modest effect on the funding cost of the portfolio, because that balance would reduce the amount of reserves in the system by that amount. We assume it does run down. And does it return?

MS. REMACHE. It returns. It declines to zero at the time that the portfolio resumes its steady-state growth. So it stays at $200 billion throughout the projection, and then is run off as reserves return to $25 billion.

MR. PLOSSER. Okay. Thank you.

CHAIRMAN BERNANKE. Governor Warsh.

MR. WARSH. Thank you, Mr. Chairman. Brian, regarding the Treasury purchases, you noted in the memo that we had, ex ante, understood that we would be breaching the old 35 percent rule of thumb, and in certain issues you found that we might be as high as 70 or 75 percent. My question is: Are those higher percents clustered in a certain place along the Treasury curve, or are they randomly around the areas that we're buying? I ask, because there would be greater concern if they were all around a particular term that would be of interest to investors, for example, if they were all seven or eight years, whereas, if we were making the market but doing so with issues spread more broadly over the curve, it would be less worrisome.

MR. SACK. First of all, the concentration of our holdings isn't quite as high as you suggested. Our highest holdings right now are at 60 percent, and, under the new thresholds that the Desk published, we will only move up in 1 percent increments per operation, so that will slow how quickly we move up. We have two issues at 60 percent and two others that are above 50 percent. If we look at our top ten holdings in terms of concentration, all of them are old bonds except one, so, certainly, that's the group for which this is relevant. The maturities of those holdings range from 2015 to 2020, so it's mostly in that 5- to 10-year sector. But it's not overly concentrated in any particular year.

MR. FISHER. Excuse me, Brian, can you explain "old bonds"? Is it in terms of price gains over book value? Or does "old" mean that we bought them some time ago?

MR. SACK. "Old" means "issued a long time ago," so that they're carrying a high coupon. They tend to be less liquid and less desirable to market participants, which makes them appear cheap in our relative value analysis, so the method we use inclines us to purchase those.

VICE CHAIRMAN DUDLEY. In essence, we're buying the bonds that people don't want, as opposed to buying the bonds that they really want to hold.

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

MR. FISHER. Actually, I have a statement, Mr. Chairman, because I want to thank Brian and Bill English for pulling together that memo. I don't know how many people read it thoroughly. It's a subject I have been pestering you about for a long time, and I know it has been an annoyance. But I learned a great deal from it, in addition to the exhibit you just presented. It does condition our deliberations; for example, if we decided to have more rapid asset sales combined with an adverse interest rate scenario, it might result in nonremittances to the Treasury for quite an extended period. So I want to thank you and your staffs for putting this together. I think it's a very important memo.

The other point I would make is that it's the kind of memo I wish we had had before we entered into the program, in that it would have informed our decisionmaking. Sensitivity analysis is so critical in understanding the consequences of what you do. And when you commit to buy $1.25 trillion worth of any asset, it is helpful to have this kind of analysis in place. I gather you have had to build this from the ground up, almost from CUSIP up. It's great work, and, at least from this corner of the table, much appreciated. I'm sure it is by everybody, and I want to thank you.

CHAIRMAN BERNANKE. President Fisher, I know we have had memos like this before.

MR. FISHER. Brian and I have talked a great deal. This is a very complicated piece of work—there are so many moving parts—and I don't recall, at least in my six years, something this thorough. But, of course, the programs have changed, the way we conduct monetary policy has changed. Even though we have had work like this before, I still think this group deserves a big pat on the back, because this was a very difficult exercise. I don't know how many hours you spent on this. I'm trying to impart a compliment, Mr. Chairman. I think Brian needs compliments every now and then.

MR. SACK. I'll take it. [Laughter] Of course, we presented an analysis of the risks on several occasions along the way, but it is true that we now have the machinery in place to do a much more comprehensive analysis of a wider range of scenarios.

MR. FISHER. Good.

CHAIRMAN BERNANKE. The Vice Chairman has a two-hander.

VICE CHAIRMAN DUDLEY. I have a quick question: How should you think about the asset sales piece, because that's different from the interest rate path? The interest rate path, presumably, reflects the pursuit of our dual mandate and the financial markets' reactions to the economic environment. The asset sales piece is, in some ways, discretionary—we could do it or not do it, and we could do it quickly or do it slowly. How do you think about that when you're doing this analysis?

MR. SACK. First of all, if we believe that the balance sheet has had effects on financial conditions, then the primary consideration for you in how to manage the balance sheet and whether to sell assets would be the effects on financial conditions and the economy. In terms of income effects, selling assets can concentrate returns. It's possible that, say, long rates would move up, but they do so because of greater optimism about the economy and an expected higher path of short-term interest rates. In that sense, the higher rates, or the capital losses that would be realized by selling assets, are essentially just the present value of the future costs that the portfolio would face. So, to a large extent, the asset sales are just reallocating the timing of when losses are realized, which is probably another reason not to make that income stream the primary objective.

VICE CHAIRMAN DUDLEY. It is not completely invariant to the losses you realize, because there's a term premium that you earn if you hold it until maturity and that you don't earn if you sell the asset early.

MR. SACK. That's exactly right. You are giving up a term premium, and you can see that in the projections. In fact, we did a scenario, which wasn't reported in the memo, where there were no asset sales, and the total effect on income over ten years was on the order of $100 to $125 billion. So there's a sense that because of a term premium we're earning an excess return. And if we sell assets and shrink that, we're giving up some expected income. In addition, we're affecting the timing of when it's realized.

CHAIRMAN BERNANKE. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. Under the worst-case scenario, the high sales/high interest rate, you have a deferred credit asset accruing. First, is there precedent for that? And, second, has that been discussed with Treasury?

MR. SACK. That was an official accounting change, and, in effect, that deferred credit essentially allows us to use future SOMA earnings to offset losses today. There is no precedent in the U.S., because it's a new treatment.

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. It's exactly analogous to a deferred tax asset in U.S. corporate accounting, I believe.

CHAIRMAN BERNANKE. Governor Warsh.

MR. WARSH. As I understand it, the losses that could ultimately generate this deferred asset would be losses that eat through the income and are the realized losses on the assets that are actually sold. This doesn't account for imputed losses on assets comparable with those that were sold, if they were somehow marked to market at that point. The question that comes out of this is: Do you think markets would, if we are in that sale mode, look through the assets that are not marked to market and query whether or not there are higher embedded losses that they should look through in order to evaluate the capital adequacy, to the extent that it matters, of the Fed's balance sheet?

MR. SACK. Let me note a couple of points. First, we do report the market value of the portfolio on a quarterly basis, so the amount of unrealized gains or losses would be apparent to the market and, indeed, is already apparent to the market, regardless of what sales regime we're in. Second, I think it's very important for markets to understand the message that these income streams and these losses, whether realized or unrealized, have no operational consequences for the conduct of monetary policy. They don't compromise our ability to tighten financial conditions or do whatever other operations we need to. If that message is understood, it's not clear to me that this results in any significant credibility problem for the Federal Reserve.

MR. LACKER. I'd just like to qualify that point. Given the current magnitudes, that's true as a practical matter, but it's not a universal principle. For example, we could run out of the ability to reduce reserves and reduce the base if our asset values fell. So, in theory, it could impede our ability to withdraw stimulus, but, at the current magnitudes, we're pretty far away from that, right?

MR. SACK. Yes, that's exactly correct. I was ignoring that for the purposes of simplifying the discussion. It affects the value of our collateral that we can use to drain reserves through reverse repurchase operations. But the value of the collateral would have to fall dramatically, given that we have more than $700 billion of currency out there. Also, of course, we can drain without collateral by using the Term Deposit Facility.

CHAIRMAN BERNANKE. President Plosser.

MR. PLOSSER. I'd like to restate my question about the SFP a little more precisely. When SFP goes away, we transfer out of the Treasury, and they become excess reserves, in effect. Right? We've just entered a program where we're going to blow excess reserves up by $600 billion, and the transfer I just mentioned is going to increase excess reserves by another $200 billion in the process. I was trying to get at the notion that, in part, that's an effect on income, because now we're actually paying income out on the excess reserves that these are converted to, which reduces our net income.

The policy question is: How does that affect our ability to drain reserves when the time comes, given that reserves are going to be $200 billion higher because of this action? This action may end up affecting what we face in terms of the pace of asset sales or our ability to drain using reverse repos and other things. In other words, the end of SFP could make the draining problem bigger than it otherwise would have been.

MR. SACK. You're right about the income effects, but, given the level of short-term interest rates, that's trivial today.

MR. PLOSSER. But as interest rates go up on interest on reserves, we're going to be paying more and more out.

MR. SACK. That's correct. And in terms of affecting our draining, if the SFP balance goes down to $5 billion, then $195 billion of reserves will enter the system for that reason between early February and early April. If the SFP balance were not taken back up at some point, then that would increase draining needs by that amount. I will note that the Treasury intends to emphasize the flexibility with this program in its statement. The last time the debt ceiling became binding, the program was taken down to $5 billion, but then, once the debt ceiling was raised, it was brought back up. I don't think we want to prejudge what's going to happen, because it will depend importantly on how the debt ceiling is raised, but the Treasury is at least retaining that flexibility and could bring the program back up in size.

CHAIRMAN BERNANKE. Governor Duke.

MS. DUKE. I'm just curious about the market's perception that we'd be more likely to sell Treasuries than the MBS. It seems to me that the last time we talked about this we talked entirely about selling the MBS. Maybe that was because we had proportionately more of them at the time, but we kept talking about getting back to an all-Treasury portfolio. So the market's perception seems a little odd to me.

MR. SACK. That was, for me, one of the more surprising aspects of the survey results, and, unfortunately, we didn't ask any questions that would allow us to understand that result better. In some of the written comments, though, a few members noted that Treasuries were easier to sell and would be less disruptive to the market, so, for at least a couple of respondents, that seemed to be the reasoning. But we could explore that in more detail, and I agree with you that it was surprising.

MS. DUKE. My question is partly why, but the other part is whether, at some point, there is anything we should do about that? In other words, whenever we start talking about exit, should we be talking more about getting back to all Treasuries?

MR. SACK. Well, in general, I think it's appropriate. If and as the Committee moves towards a well-defined strategy, that could be communicated at some point to allow markets to prepare and adjust.

CHAIRMAN BERNANKE. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. I'll say one thing about the remittances. I think it's important not to view this purely as an operational issue or purely as a communication issue with markets. I think we can all agree that it's going to be solved. However, I think the challenge is communication with the broader public. We're going through a high revenue period right now, and it's often advertised as, "Boy, the Fed is doing great!" The flip side of that is if remittances fall to $5 billion, then stories are going to be written about the Fed saying that it's facing challenges, that it has been running irresponsibly, and so on. I'm not saying that this challenge should influence policy, but it should influence communication.

My second point is also about communication. It strikes me that, when we ask questions of the dealers, we, in some sense, tip our hand a bit about what the realm of policy choices might be. I admit that I don't know how to get around this. We do want to have information from markets, but asking the questions of markets is also transmitting information. I'll put this issue on the table as something that perhaps we can talk about when we get to the discussion of the work of the subcommittee on communications that we're going to have later.

CHAIRMAN BERNANKE. Let me comment on both issues. On the first issue, you're right, there are going to be communication challenges. In most scenarios, the projections strictly dominate our non-quantitative easing income stream. Even in these worst-case scenarios, though, over a five-year average, we're still doing about the same. So I think we can manage that, except in the most extreme scenarios.

On the second issue, Brian and some of his staff raised the question of whether we would want to release publicly the questionnaire that we give to the dealers. The idea would be to do it before the meeting—at the same time that we circulate it to the dealers—which has the advantage of putting everybody on the same footing. My own thought was that we should wait and see, partly because I was concerned that circulating it would just create more speculation. It seemed to me the better thing, if that really was becoming a problem, would be just to stop circulating the questionnaire at all. You have identified a problem that Brian and his staff have looked at, and it may be something we need to discuss as a Committee.

MR. KOCHERLAKOTA. Yes, both extremes seem unsatisfactory. I don't know in my own head where I stand on this, but I think it is something we should try to solve.

CHAIRMAN BERNANKE. Why don't we agree to think about that?

MR. SACK. Can I just say a word? We believe that the survey does not reveal information to the respondents, and we try to be very careful to construct it so that it does not. But public release is still an issue, in that doing it would eliminate any perception of asymmetric information.

MR. KOCHERLAKOTA. If it's truly not revealing information, then I guess it would be okay to release it publicly. We can talk more about this.

CHAIRMAN BERNANKE. Anyone else? Any further questions? President Lacker.

MR. LACKER. Thank you, Mr. Chairman. My question for you, Brian, has to do with a couple of things related to the difference between the path that our asset purchases induced for the asset side of our portfolio and the path that reserves and the monetary base have taken. The discrepancy has been pretty large in the last couple of months. For example, in December we bought a lot of assets, but reserves went up just $2 billion and the Treasury general account went up a ton. Then, in January, we had AIG repaying the New York Fed—as an aside, I'd like to congratulate the New York Fed on the repayment of the AIG credit—which is almost a $50 billion reserve drain. Then, in February and March, with the Treasury running off the SFP, it's going to add $200 billion. Then, it wasn't clear from your documentation what the Treasury is planning with the TGA.

I have a granular question: What's the Treasury thinking about the TGA? They used to peg it at $5 billion back when we sterilized stuff. It's sort of a pain. At the magnitude of our balance sheet, this is, perhaps, not likely to be material, but it's bordering on a material effect on our reserve position. When we get to the point where we're running off reserves, maybe a couple of years from now, we could get into situations where the management of the TGA makes a material difference in what happens to reserve balances. So I'm wondering how we should think operationally, in the Committee's deliberations, and whether the Treasury is giving you any more color about its intentions for the TGA and whether it's worthwhile to try to influence Treasury to provide us with a little more surety about its TGA strategy.

MR. SACK. Let me say a few things about what's been going on with the TGA and then say a couple of things about what I think it means for policy implementation. You're right that the TGA has been unusually large and very variable—it has been swinging between $10 billion and $100 billion, which is very different from the old regime, where it was very steady at a low level, like $5 billion. The reason is that the Treasury used to use its accounts in the private sector, the TT&L and TIO accounts, to absorb those fluctuations in its cash balance because it could get a higher return. That return is tied to short-term interest rates. With short-term interest rates having moved to near zero, and given that those programs have some operational costs, they've taken those programs down to a very trivial level, and they're just letting the cash balances in our account fluctuate.

In terms of policy implications, we don't regard that as a problem, given our current directive, which is to manage reserve conditions consistent with a funds rate from zero to 25 basis point. We have so many reserves in the system it doesn't matter much if they're fluctuating by $100 billion because of this factor. But, as we move into a regime where it becomes more important to manage reserves more precisely—for example, that might be the case when short-term interest rates begin to rise—then we'll have to come to a solution. Of course, if short-term interest rates are rising, it will be very natural for Treasury to start to move funds back to the banks, and we'll see a return towards the old regime, but, depending on the exact timing and the exact directive we're given, we could come back to this issue with Treasury.

MR. LACKER. Part of my question was motivated by the discussions we had in December 2008 and January 2009 about the fact that in the past the SOMA had a one-for-one relationship with reserve conditions and the funds rate, and yet we were embarking in early 2009 on programs that would break that relationship. I thought we agreed to take a cohesive approach within the Committee, even though, as a governance matter, there were separabilities in the governance of some of those things. We sit around here and talk about adding $600 billion to assets under the assumption that it's going to add $600 billion to reserves, and it turns out that, under some scenarios, reserves are going to go up $800 billion because of the debt limit. So there's a bit of a disconnect in focusing on just the asset side, and that's what I was suggesting that we could be thinking about going forward.

CHAIRMAN BERNANKE. Well, if we determine that it was creating problems or distorting our policy, we certainly could talk about sterilizing some of the differences. Certainly we're technically able to deal with that. Any other questions? [No response] If there are no further questions, then we need a vote to ratify domestic open market operations.

MS. YELLEN. So moved.

CHAIRMAN BERNANKE. Any objections? [No response.] Thank you. The next item is the economic situation. I'll call on Dave Reifschneider to lead off.

MR. REIFSCHNEIDER.[3] Thank you, Mr. Chairman. Steve Kamin, Nellie Liang, and I will be referring to the material titled "Staff Presentations on the Economic Outlook." Overall, the data that have become available since the December Tealbook closed suggest that the economy expanded somewhat more rapidly late last year than we anticipated. As shown in the upper left panel of your first exhibit, real consumer spending accelerated noticeably in recent months, accounting for much of the upward surprise in aggregate demand. However, because the fundamentals continue to look less impressive, we have carried only some of the recent momentum into the current quarter.

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[3] The materials used by Messrs. Reifschneider and Kamin and Ms. Liang are appended to this transcript (appendix 3).

As shown to the right, manufacturing output rose steadily over the second half of last year, although at a somewhat more subdued pace than earlier in the recovery. But with light vehicle sales up and dealer inventories relatively lean, we expect IP to be boosted this quarter by a step-up in motor vehicle assemblies; in addition, new orders data suggest that factory output outside of the motor vehicle sector is likely to post solid gains. Overall, we expect manufacturing IP to increase at an annual rate of nearly 7 percent this quarter.

In contrast, the housing sector remains moribund. As illustrated by the black line in the middle left panel, single-family housing starts have remained roughly flat, in the neighborhood of 450,000 units per year since mid 2009. And while the latest sales data (the violet line) came in a touch stronger than we expected in December, housing demand remains depressed. Finally, house prices (not shown) have moved down further in recent months under the pressure of foreclosures and distress sales.

The improvement in labor market conditions remains slow. As shown to the right, monthly payroll gains averaged about 130,000 in the fourth quarter, little different from their pace earlier in 2010. But other recent indicators, such as initial claims and hiring plans, point to modest gains in coming months, and, with overall output expanding at a solid rate, we anticipate that monthly payroll gains will average about 160,000 in the current quarter.

The bottom left panel summarizes the near-term GDP projection. As shown in line 1, we now estimate that real GDP rose 3¾ percent in the fourth quarter, a little more than a percentage point faster than we projected back in December, reflecting a sizable increase in private domestic final purchases (line 3). As Steve will discuss, net exports also appear to have made a large arithmetic contribution to real GDP in the fourth quarter, although that boost is likely to be largely offset by a marked slowing in the rate of inventory investment.

Finally, as shown to the right, underlying inflation remains subdued, with both the core CPI (black line) and core PCE prices (red line) increasing only ¾ percent over the 12 months ending in December. We judge that transitory factors held down consumer prices a bit in the fourth quarter, and therefore expect core PCE inflation to edge up in coming months.

The medium-term outlook is the subject of your next exhibit. As shown in the upper left panel, our forecast for real GDP remains largely unchanged. In particular, our current forecast (the black bars) continues to show a sustained acceleration in aggregate output this year and next, as the headwinds restraining the recovery gradually diminish in an environment of persistently accommodative monetary policy.

Even with the pickup in real activity, the recovery in the labor market is likely to be painfully slow. As shown to the right, we project that the unemployment rate will not fall below 8 percent until late 2012. Not surprisingly, considerable uncertainty attends this forecast. As indicated by the shaded regions, the 90 percent confidence band for our forecast encompasses everything from rapid progress toward restoring full employment to essentially no progress at all. [Laughter] I didn't figure that as a laugh line, actually.

As shown in the middle left panel, we project that core PCE inflation will average about 1 percent this year and next. As before, we continue to expect stable long-run inflation expectations to prevent the considerable amount of economic slack from pushing underlying inflation lower. Reflecting recent increases in food and energy prices, overall PCE prices are likely to increase about 1¼ percent this year but to rise 1 percent in 2012, in line with core prices. As with the unemployment rate forecast, the inflation outlook is highly uncertain, and we cannot rule out the possibility that core PCE inflation could fall to zero or rise to 2½ percent.

Although uncertainty about the outlook for real activity and inflation is considerable, we nevertheless are a little more confident about the durability of the recovery than we were last summer when the economy went through a soft patch. Indeed, we now see the risks to our forecast of economic activity as roughly balanced, as opposed to skewed to the downside. Other forecasters also appear to have become more confident about economic recovery. As indicated by the blue bars in the middle right panel, the dispersion of year-ahead projections of real GDP in the Survey of Professional Forecasters—an imperfect proxy for uncertainty—has retraced its jump during the financial crisis. In contrast, the dispersion in SPF forecasts of inflation has been rising and late last year reached the highest level seen since the early 1990s.

In assessing the prospects for continued recovery, one important factor is the stance of monetary policy. As shown in the bottom left panel, the real funds rate is now quite low by historical standards—albeit not to an unprecedented degree, as can be seen by comparing the current episode to the period following the deep 1975 recession. In addition, joint research by Hess Chung, Jean-Philippe Laforte, John Williams, and me suggests that the FOMC's asset purchases are providing important support to both real activity and inflation. As indicated by the red line in the panel to the right, we estimate that the original 2009 LSAP program is substantially reducing unemployment. And, as indicated by the blue and black lines, your subsequent moves to reinvest principal payments on your holdings of longer-term securities and then to expand your holdings by an additional $600 billion, are judged to have boosted this effect further. Overall, we estimate that the program will hold down the unemployment rate in 2012 by 1½ percentage points. Although these are our best estimates, we readily admit that the range of uncertainty surrounding them is very large.

Your next exhibit reviews some of the other forces influencing the pace of the recovery. As noted in the box, capital demands are among the factors working to support a rebound in activity. Business outlays on equipment and software contracted so sharply during the recession that the real stock of this category of capital—the black line in the chart to the right—actually began to contract. If business capital stocks are to resume expanding at a more normal rate, investment outlays will need to continue increasing at a solid pace through next year. Similar considerations apply to consumer durable goods, the red line.

The economic recovery also should continue to be supported by a diminishing drag on consumer spending from past declines in wealth, as illustrated by the bars in the middle left panel. Finally, we anticipate that a gradual increase in credit availability will help to boost investment and consumption over time. Indeed, readings from the latest SLOOS suggest that conditions have already eased somewhat.

However, as indicated by the second set of bullets in the upper left box, other factors are hindering the pace of recovery—most importantly, the ongoing troubles in the residential and nonresidential construction sectors, and a fading impetus from fiscal policy. The middle right panel provides some perspective on the importance of these three factors. As shown in the first line, real GDP typically increases almost 10 percent during the first eight quarters following the trough of a recession, but, in this recovery, we anticipate an increase of only 6½ percent. One reason for the more subdued performance in this cycle is the lack of any contribution to output growth from residential construction, line 2, whereas housing usually contributes 1¼ percentage points to overall growth. Similarly, nonresidential structures investment is expected to subtract ½ percentage point from GDP growth during this recovery, rather than playing its typical "neutral" role. Nellie will have more to say about conditions in the real estate sector shortly.

Looking forward, fiscal policy is also likely to be a restraining influence on economic growth. As illustrated by the teal bars in the lower right panel, federal fiscal policy provided an important boost to real GDP growth in 2008 through 2010. But this impetus to growth should fall almost to zero this year and is expected to turn sharply negative in 2012 as the stimulus grants to state and local governments are exhausted, extended unemployment benefits lapse, and the payroll tax holiday ends. The swing in the stance of federal fiscal policy will be partly offset by developments at the state and local level. Excluding spending out of federal grants, fiscal impetus at this level of government (the red bars) should turn modestly positive, as tax revenues continue to recover. Indeed, as shown to the right, receipts rose noticeably during 2010 and are expected to increase further over the next two years.

Your next exhibit considers another area of substantial uncertainty—household saving. As indicated by the black line in the upper panel, the personal saving rate, which hovered around 10 percent in the early 1980s, trended down markedly over the next 25 years, but then rebounded during the recession to about 6 percent. As indicated by the red line, which shows a dynamic simulation of a simple reduced-form model of consumer spending, most of these historical movements in the saving rate can be explained by movements in income, wealth, interest rates, and consumer sentiment, the key variables included in this model. That said, the model has persistently underpredicted the saving rate since 2006. Looking forward, we expect that the saving rate will roughly parallel the trajectory predicted by the model and remain close to 6 percent this year but then step down to 5¼ percent next year after the end of the payroll tax holiday.

A downside risk to the saving rate forecast, and thus an upside risk to the strength of the recovery, is the possibility that consumer spending will fully realign itself with the predictions of the model. Such a development could occur if the gap seen in recent years reflects the transitory effects of heightened uncertainty, tight credit conditions, and impaired household balance sheets. But other considerations suggest upside risks to the saving rate projection as well. As shown in the middle left panel, we have conditioned our forecast of the saving rate on an appreciable rise in consumer sentiment this year and next; if households remain downbeat, then the saving rate would likely be rising over time, not edging down.

We also expect credit availability to continue to improve. As shown to the right, banks' willingness to make consumer loans has increased in recent quarters. Similarly, credit card solicitations—shown in the bottom left panel—have recovered somewhat from their lows in 2009. These indicators of improving credit supply to households may reflect greater confidence on the part of lenders about the future as well as the progress households have made in deleveraging. As shown in the bottom right panel, both the ratio of household debt to income (the red line) and the debt service ratio (the black line) have fallen noticeably from their pre-recession peaks, and we expect these ratios to continue to decline through next year. I now turn the floor over to Steve.

MR. KAMIN. As with the U.S. economy, the foreign outlook appears reasonably bright, but that depends critically on the financial stresses in Europe remaining contained. As indicated in the top left panel of exhibit 5, in the wake of the rescue package for Ireland last November, peripheral European sovereign spreads have remained high and volatile. They moved up toward year-end amid expectations that Portugal would be forced to seek financial assistance, but came down more recently following stepped-up ECB purchases of peripheral bonds and several well-received bond auctions by Portugal, Spain, and Italy. Stresses in dollar and euro funding markets have remained in check, and, so far, the core European economy appears to have been little affected by the financial turmoil in the periphery. In Germany, where real GDP growth likely topped 4 percent last year, the stock market, purchasing managers' index, and the Ifo survey of business sentiment continued to move up forcefully in the fourth quarter.

All that said, financial stability in Europe faces a number of challenges over the next few years. To begin with, as indicated in the middle left panel, the governments and banks of Spain and Portugal will need to finance the redemption of roughly €200 billion in maturing bonds both this year and next, as well as ongoing budget deficits, and this makes them highly vulnerable to shifts in investor sentiment. Second, as indicated in the panel on the right, Greece's debt burden is most likely unsustainable, and, unless the European authorities decide to continue bailing it out, a restructuring of Greek sovereign bonds threatens further disruption to European markets; this event could come as early as 2012, when Greece is slated to return to the market for much of its funding. Finally, if the peripheral European countries are to continue servicing their debts, their economies must begin to grow. However, as shown in lower left panel, over the preceding decade, unit labor costs in peripheral Europe rose unusually rapidly, and this loss of competitiveness poses a clear threat to their economic growth.

At present, the central strategy for containing the turmoil is to protect Portugal and especially Spain from speculative attack so that contagion does not leapfrog to Italy, Belgium, and beyond. There is a good chance that Portugal will turn to the EU and the IMF for a financial rescue package in the near future, while Spain's stronger fiscal position, combined with prospects of strong backing from the EU and the IMF, should keep financial pressures there at bay. However, we judge that credibly backing the two countries will require resources totaling over €500 billion, whereas available resources of the EU and the IMF are only on the order of €375 to €400 billion. So far, European policymakers have been discussing plans to expand their backstop capacity, and it is critical that they do so before market sentiment takes a further turn for the worse. The authorities have also scheduled another horizontal review of European banks for the first half of this year. This review must be more credible than the one conducted last summer: A more severe adverse scenario must be assumed, more banks should be identified as requiring additional capital, and the authorities must be able to muster the resources to help recapitalize banks whose balance sheets are found wanting.

Unlike the governments in the emerging market crises of the past, Europe has sufficient resources to address its problems, and in the final analysis, we expect that the authorities will likely do what needs to be done to prevent financial chaos. Based on this admittedly uncertain assumption, our baseline outlook for the global economy is reasonably positive, as may be seen in the table at the top of your next exhibit.

As in the United States, foreign GDP growth slowed sharply in the middle of last year as inventory cycles played out, the rebound in global trade slowed to a more sustainable pace, and policy stimulus faded in some countries. In the emerging market economies, line 3, economic growth likely bounced back in the fourth quarter, led by near 10 percent growth in China, line 4. As shown in the middle left panel, aggregate industrial production in the EMEs has stayed strong in recent months, and EME exports, the middle panel, have rebounded. As shown on the right, our sense is that output in the emerging market economies has largely returned to potential, although such estimates are admittedly uncertain, and should stay in that range as output growth continues at about its historical trend.

By contrast, we see output in the advanced foreign economies—the red line—remaining well below potential, with the gap eroding only slowly. Much of the blame rests with the euro area, line 8 in the table, where continued financial stresses in the peripheral economies, as well as strenuous fiscal consolidation throughout the region, will push economic growth down to a paltry 1¼ percent in 2011 before some normalization of conditions supports faster growth in 2012.

Given the extent of the resource slack, policy interest rates in the AFEs, the bottom left panel, are likely to stay on hold for most of this year before being boosted gradually thereafter. Although headline inflation rates (not shown) have been pushed up recently by energy prices, core inflation rates are below their pre-recession pace in the euro area and Japan, and their surge in the United Kingdom principally reflects a hike in value-added taxes and the steep depreciation of the pound. The low policy rates do not appear, as yet, to be inspiring much speculative excess, either. For example, corporate credit spreads remain well above pre-crisis levels in the euro area and the United Kingdom.

Some observers suggest that accommodative monetary policies in the advanced economies are exerting tangible effects on emerging markets, encouraging capital inflows that are boosting currencies, exacerbating inflationary pressures, and fueling speculative excesses. As described in your next exhibit, the real story appears to be more complicated. First, flows to emerging markets have indeed been strong over the past year. However, this strength likely reflects a reversal of the capital outflows that occurred in 2008 and the emerging market economies' generally brighter growth prospects, in addition to accommodative policies in the advanced economies.

Second, EME currencies have not risen as much as some discussion would suggest. Much of their recent appreciation, again, merely reverses their plunge after the collapse of Lehman Brothers, and while some currencies, such as the Brazilian *real,* have breached pre-crisis levels, others, such as the Korean won, remain depressed. In aggregate, the real value of emerging market currencies against the dollar is just a little higher than at the beginning of 2007. Of course, the run-up in these currencies would have been higher in the absence of exchange market intervention, but by how much is difficult to say.

Third, we have been scouring the emerging markets for indications of asset price bubbles, and, with the prominent exception of the run-up in housing prices in China, Singapore, and Hong Kong, we do not have much to report. The memo on asset valuations distributed to the Committee last week flagged some richness in Latin American equity valuations (not shown), but it is not clear they reflect an inordinate degree of risk-taking as yet. Notably, spreads on dollar-denominated corporate bonds remain quite elevated in Latin America and are still above pre-crisis lows in emerging Asia.

Finally, inflation rates in EMEs have, indeed, risen above pre-recession levels, as shown in the bottom left panel, and this has been a source of considerable concern to policymakers. However, much of the run-up reflects rising commodity prices, particularly for food, and we see headline inflation rates eventually settling down as these prices stabilize.

Rising oil and commodity prices—shown on the right—could themselves reflect accommodative policies and low interest rates. However, a surge in speculative demand for commodities caused by low interest rates would likely be associated with rising inventories, and, as we discuss in the Tealbook, inventories of commodities (not shown) generally have been coming down. Rather, mounting oil and other commodity prices more likely reflect strong demand from rapidly growing emerging market economies such as China, as well as declines in the dollar. Based on futures markets, we are projecting these prices to flatten out going forward as supply catches up with burgeoning demand. However, given the strengthening outlook for global growth, we cannot fully preclude the risk of another steep run-up in oil and commodity prices such as occurred in 2008.

Although inflationary and speculative risks may be less pervasive than some have claimed, EME authorities undoubtedly need to tighten monetary policy further to ward off economic overheating, and they will seek to do so in a manner that discourages further increases in capital inflows. They will likely continue to rely on the same mix of measures, to greater or lesser degrees, that they have used in the past year or so: measured increases in interest rates (as shown in middle right panel), allowing limited appreciation of their currencies, and various forms of capital controls. These policies should keep inflationary and speculative pressures in check, thereby obviating the need for more strenuous policy tightening later, which could threaten the economic expansion. However, that remains a discernible risk to the outlook.

Assuming that our baseline forecast of solid, steady growth abroad materializes, the outlook for U.S. trade, shown in your next exhibit, should be encouraging but hardly eye-catching. Admittedly, earlier last year we experienced a certain *frisson*—I had to look up the pronunciation—of excitement as the growth of imports, the green line in the top left panel, soared well above that of exports. This led net exports, on the right, to subtract 2½ percentage points from GDP growth on average over the second and third quarters, raising concerns that inroads into U.S. spending by foreign producers could slow the recovery. However, we were reassured by evidence that rising imports were not so much displacing spending on domestic production as they were being pulled in by mounting domestic demand. As shown in the middle left panel, industrial sectors experiencing larger increases in production (the horizontal axis) also tended to experience larger increases in import penetration (the vertical axis).

Turning to the right, we are inclined to believe that imports, having been unusually depressed during the recession, were simply rebounding to the level—represented by the dashed line labeled “model solution”—implied by fundamental determinants, such as real GDP and the real exchange rate. Exports were rebounding more slowly, perhaps because exports include many capital goods whose sales have been restrained by still-depressed levels of investment overseas. In any event, data for October and November pointed to a pause in imports, and, going forward, we are projecting less exuberant import growth, even as exports pick up a little more quickly, buoyed by continued declines in the dollar. In consequence, returning to the top right panel, after an outsized but transitory contribution to real GDP growth in the fourth quarter of last year, net exports make very slight positive contributions this year and next. And the current account deficit, at bottom right, narrows gradually. With the current account deficit less than half its size in 2006, our representatives at G–20 meetings will be able to declare confidently that the United States is a full contributor to the effort to reduce global imbalances. Nellie Liang will continue our discussion.

MS. LIANG. Your next four exhibits discuss the financial conditions underlying the staff's forecast and highlight some key financial risks in domestic markets.

As shown in the top left panel of exhibit 9, yields on 10-year Treasury notes are about flat since the last FOMC meeting, but are up nearly a full percentage point since the Chairman's Jackson Hole speech in late August. Yields on BBB-rated corporate bonds, the green line, have risen by less since August, leaving the spread to Treasuries about 30 basis points lower. One measure of bond valuations is shown to the right. Near-term forward spreads on these corporate bonds, the black line in the right panel, suggest that investors are still pricing in somewhat elevated losses in the next few years, but far-forward spreads, the orange line, are lower, suggesting an almost complete retracing of risk appetite for corporate bonds to pre-crisis levels.

As shown in the middle left, stock prices have rallied sharply since late August, posting gains of more than 20 percent. As a result, the expected real return on equity, the black line in the right panel, has fallen, though it remains elevated relative to historical standards. Its gap to the real Treasury yield, a measure of the equity premium, shown by the blue shaded region, also remains quite wide, suggesting a still relatively cautious attitude towards U.S. stocks. Broadly consistent with this attitude, as shown in the lower left panel, money has been flowing out of domestic equity mutual funds in the past eight months. In contrast, as Steve Kamin showed, flows to emerging market equity funds have been strong. In our baseline forecast, we assume that the equity premium will decline toward a more typical level as investors become more confident of a sustained expansion.

Despite the gains in the value of some risky assets, use of dealer-intermediated leverage does not appear to have risen significantly. For example, in the triparty repo market, the rise in the average daily volume (not shown) has been moderate in the past two quarters, and as can be seen in the bottom right panel, haircuts for corporate bonds have drifted down only slightly, although they are nearly back to mid-2008 levels. In addition, market participants have noted only selective increased use of leverage for funding equities. Instead they have expressed greater concerns that traditionally unleveraged investors are feeling significant pressure to boost returns and are driving demand for some fixed-income products.

As shown in the top left panel of your next exhibit, corporate bond risk spreads for A-rated financial firms have declined since late spring but remain above those for similarly rated nonfinancial firms, reflecting some lingering concerns about the credit quality of the financial sector.

Meanwhile, the availability of credit for households and businesses continues to improve, albeit from depressed levels for some forms of credit. As shown to the right, results from the January Senior Loan Officer Opinion Survey show that a small net fraction of banks again eased lending standards for a composite of all loan categories over the past three months. Moreover, as shown in the middle left, a large net fraction of banks reduced terms on C&I loans to both large and small firms. The net easing of standards and terms on C&I loans may reflect competitive pressures from capital markets that have been increasingly accommodative. As shown in the middle right, debt issuance by lower-rated corporations rose sharply in 2010: Issuance of high-yield corporate bonds, the yellow bars, was very strong, as firms took advantage of low long-term interest rates. Issuance of leveraged loans to institutional investors, the blue bars, also increased, and market participants point to some loosening of covenants in leveraged loans, though from still fairly tight levels.

As shown in the lower left, for households, growth in consumer credit recently turned positive, and we project a modest increase in the fourth quarter of 2010, the first quarterly rise since 2008. Installment loans have risen with demand and an easing of credit conditions, but credit card balances continued to contract.

Despite the pockets of improvement in recent months, total debt of nonfinancial businesses, plotted as the red line to the right, expanded only modestly in the fourth quarter, and we expect only a moderate pickup this year and next, as firms draw on their substantial cash holdings. Debt growth for households appears to have stayed negative last quarter, and is expected to remain so this year, held down by a further contraction in mortgage debt.

Turning to your next exhibit, conditions in the real estate sector remain quite weak. As shown in the top left panel, residential house prices in recent months have been coming in lower than we had expected in the November and December Tealbooks, and recent readings indicate that prices now are modestly below their levels in early 2009. Going forward, we now have prices declining a bit further before flattening out next year. For commercial real estate, shown to the right, prices for non-investment-grade properties, the orange line, peaked about a year after residential house prices. These property values have continued to decline, and we expect them to remain sluggish. The prices of these properties likely reflect the value of collateral backing many CRE loans on banks' books.

There are some notable bright spots. Prices on investment-grade commercial properties, the black line, appear to have found a bottom in 2010, consistent with the rise in CMBS prices in recent months. In addition, in the residential mortgage market, fewer homeowners are moving into delinquency. As shown by the red line in the middle left panel, for prime mortgages, the transition rate from current status to past-due status slowed notably in 2010, while, for nonprime mortgages, the transition rate, the black line, continued its two-year decline.

Consistent with these trends, the middle right panel shows that the amount of residential and commercial mortgages that are delinquent or not accruing interest at commercial banks edged down slightly through the third quarter of 2010, although the percent in distress is very elevated, at more than 11 percent of real estate loans outstanding. Thus, despite some signs of improvements in fundamentals, real estate losses at banks likely will remain elevated for a while.

Expected credit losses estimated from aggregate models are shown in the bottom left table. These models do not capture the heterogeneity of loans across banks, as could be done with supervisory data that currently is being collected for some of the largest firms. As shown in the first column, aggregate CRE loss rates in the baseline forecast are estimated to increase in the next two years to an annual average rate of 3.0 percent, as distressed properties hold down some property prices. In contrast, loss rates for residential mortgages are expected to average about the same level as last year, and loss rates for other categories, notably consumer, are forecast to decline as unemployment falls. Total loss rates, the fourth column, are on average about unchanged. In the aggregate, current reserve levels, combined with projected revenues, would appear sufficient to absorb continued losses of this size.

However, as noted in the box to the right, the real estate situation could play out worse than we expect. For example, as illustrated by two alternative scenarios in the Tealbook, a greater-than-expected 10 percent decline in house prices would raise bank losses modestly, although it would not be sufficient to derail the improvement in economic activity unless other asset prices also dropped sharply and credit conditions tightened. Another risk to banks is related to mortgage documentation practices. The ongoing examinations by the federal banking agencies of mortgage servicers have revealed serious deficiencies, and the agencies have commenced enforcement proceedings and expect to take public enforcement actions against a number of the largest mortgage originators and servicers. Other federal and state legal authorities also are exploring enforcement actions. In addition, banks face risks related to the alleged violation of reps and warranties provided on loans in securitization trusts sold to the GSEs and other investors. Supervisory estimates of losses from potential mortgage put-backs based on data for 12 institutions range from $25 billion to $75 billion. While these estimates have been revised down sharply in light of recent GSE settlements with Bank of America and Ally, they could still be material for a few firms.

Your next exhibit turns to problems in the euro area and the consequent risk to domestic money market funds. As shown in the top left panel of your next exhibit, financial institutions based in peripheral European countries have had to pay a premium to issue dollar-denominated commercial paper. Spreads on short-dated commercial paper issued by Irish financial institutions were very high in recent months, and spreads for Spanish and Italian firms also were elevated. Firms have also had to shorten maturities, and some firms have lost access to the market altogether.

Reflecting pullback by investors, outstanding CP and negotiable CDs issued in the United States by peripheral Europe financial firms, shown as the purple line in the top right, have dropped sharply in recent months. As can be seen by the black line, holdings by money market funds indicate that they are the primary investors in the paper issued by these peripheral European firms in the U.S. As shown in the middle left, while major money market funds have shrunk this paper to a very small share of their assets, paper from other European countries has remained quite substantial. These holdings of paper from non-periphery countries are a concern, because the banking systems of those countries have substantial exposures to peripheral European debt.

As noted in the table to the right, our most recent data (now six months old) show that banks in France and Germany have extended large amounts of credit to Greece, Portugal, and Ireland, the first column, as well as to Spain, the second column. While banks in France and Germany have reduced their exposures since year-end 2009, credit extended to these four countries still represents more than 100 percent of their tier 1 capital. The credit from U.S. banks, the third line, is more modest. Nonetheless, U.S. banks could feel the effects of peripheral European problems because of their substantial ties to the large core European countries. Another channel for risk to U.S. banks is that they sponsor roughly $650 billion of prime money funds and may feel pressured to support these funds if runs were to occur.

In terms of domestic fiscal pressures, investors have recently become more concerned about the implications of budgetary pressures on U.S. state and local governments, as reflected in rising CDS spreads for general obligation bonds of some states. Notably CDS spreads for Illinois bonds, the red line in the bottom left panel, rose sharply in recent months, and to levels above those for California, which have been elevated for some time. After the recent passage of a budget with higher taxes in Illinois, CDS spreads for a number of states eased a bit, reflecting perhaps some relief by investors that state governments appear willing to step in to avoid defaulting on their bonds.

While recent market jitters may have been overdone, the elevated spreads suggest investors are concerned about risks in this sector. As noted to the right, some state and local governments now will have to pay higher rates to issue new debt, which could increase stresses further. In addition, some could lose access to variable rate demand obligations (VRDOs), which effectively allow municipalities that issue long-term bonds to borrow at short-term rates that reset frequently. Nearly all VRDOs have explicit liquidity support from a bank. Borrowing costs would increase for state and local governments if banks choose not to renew liquidity facilities or raise their fees because of higher risks.

Banks also are vulnerable to heightened concerns about this sector. Preliminary data for the largest banks suggest that credit losses from loans and securities would be modest. However, banks have contingent liabilities from the liquidity support they provide to VRDOs. Six major domestic banks and a large Belgian bank (one with high and rising risk spreads) provide liquidity support for about one-half of VRDOs outstanding; that market currently totals about $400 billion. Thus, banks' balance sheets could be pressured if investors, such as tax-exempt money funds, become concerned about the credit risk of the issuer or the liquidity provider and choose to put back the VRDO. To date, such pressures are not evident: While tax-exempt mutual funds have had unexpectedly large outflows in recent months, tax-exempt money market funds have not. Joyce will continue with our presentation.

MS. ZICKLER.[4] Thank you. I'll be referring to the "Material for Briefing on FOMC Participants' Economic Projections."

In broad terms, as shown in the top panel of exhibit 1, you are expecting a sustained recovery in real economic activity over the next three years, marked by a noticeable step-up in the rate of increase in real GDP this year followed by further gradual acceleration during 2012 and 2013. Although you anticipate that the decline in the unemployment rate—the second panel—will remain relatively modest in the coming year, you project a more noticeable tilt down in joblessness as the expansion strengthens. Regarding inflation—the bottom two panels—the central tendency of your projections shows total PCE inflation relatively stable over the next three years. However, your projections show a gradual uptrend in core inflation over the period.

Exhibit 2 provides more detailed summary statistics for your projections and compares them with those that you made in November and with the staff Tealbook forecast. Starting with the change in your near-term projection since November, as shown in the first two lines, you have marked up your expectations for the increase in real GDP this year, with the central tendency now nearly 3½ to 4 percent. Many of you indicated that the stronger-than-expected data on production and spending that we have accumulated since November, along with the passage of the fiscal package, led you to view the recovery as having gained some strength that should carry through 2011. A number of those who did not change their forecasts significantly noted that the recent news had led them to shift their assessment of the balance of risks surrounding their forecasts from weighted to the downside to broadly balanced. That said, the recent news did not alter significantly the central tendencies of your expectations for the pace of real activity in 2012 and 2013, which call for real GDP to increase between 3½ and 4½ percent in 2012 and between 3¾ percent and 4½ percent in 2013. This general pattern of revisions is also reflected in the updates to the Tealbook forecast since November.

Your projections suggest that real GDP will increase at above-trend rates over the next three years, supported by accommodative monetary policy and improving credit and financial market conditions. A number of you noted that fiscal policy should provide some temporary stimulus this year but should be a drag in 2012. Your narratives indicated that many of you believe that the ongoing expansion will be led by sustained increases in consumer and business spending, and a number of you suggested that improvements in household and business confidence and in labor market conditions should help to reinforce the rise in private demand. Nonetheless, many of you commented that, while the recovery appears be on a firmer footing, the headwinds from the limited improvement in the labor market, lingering household and business uncertainty, and problems associated with the weak housing and nonresidential real estate markets are likely continue to exert some drag on economic activity over the forecast period.

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

Your projections for the unemployment rate—the second set of statistics—trace a steady downward path over the next three years that is quite similar to the projections that you submitted in November. The central tendency of your forecasts calls for a decline from about 9¾ percent at the end of 2010 to 8¾ to 9 percent at the end of this year and then to 6¾ to 7¼ percent at the end of 2013. The staff Tealbook forecast, which is also little changed since November, falls in the middle of your central tendencies.

Turning to inflation—the bottom two sets of statistics—you can see that the central tendencies of your projections for total and core PCE inflation are similar to those you provided in November. The same is true for the Tealbook, which continues to forecast inflation at the low end of your central tendencies. As I noted earlier, your projections suggest an uptrend in core inflation over the 2011-13 period. Nonetheless, more than half of you expect that total PCE inflation in 2013 will remain below your estimates of its longer-run rate. Some of you noted that the persistence of a wide margin of slack in resource markets would help keep inflation relatively low over the forecast horizon. And a number of you indicated that appropriate monetary policy, combined with well-anchored inflation expectations, would help keep inflation in check.

Your longer-run projections—detailed in the column at the right—continue to anticipate that, over time, the annual rate of increase in real GDP will converge to 2½ to 2¾ percent, with an unemployment rate of 5 to 6 percent and total PCE inflation between 1½ and 2 percent. Most of you indicated that this would most likely occur within five or six years, although a number of you noted that the decline in the unemployment rate could lag the convergence of the rate of increase in real GDP and inflation to their longer-run rates. Moreover, the central tendency for your projections of the unemployment rate in the longer-run remains relatively wide—a result that is likely consistent with the range of views on structural unemployment expressed earlier.

Regarding your monetary policy assumptions, half of you—a somewhat larger proportion than in November—conditioned your outlook on a less accommodative stance of monetary policy than assumed by the staff. Specifically, those respondents indicated that they thought that the appropriate policy would involve an earlier start to normalizing the balance sheet than assumed in the Tealbook, an earlier increase in the federal funds rate, or both.

Your final exhibit summarizes your assessments of the uncertainty and the risks that you attach to your projections. As indicated in the two panels on the left-hand side of the page, most of you continue to judge that the uncertainty attached to your projections for both real GDP and inflation—as well as for the unemployment rate (not shown)—is greater than the level of uncertainty that prevailed on average over the past 20 years. This judgment was attributed to uncertainty related to the nature of recoveries from financial crises, the effects of unconventional monetary policies, structural dislocations in the labor market, the sustainability of fiscal policy, and the global economic outlook.

Although your level of uncertainty was little changed from the November SEP, you now view the risks to your forecasts—summarized in the panels to the right—as noticeably more balanced than in November. In particular, almost all of the participants who previously saw downside risks to their projected increases in real GDP now view them as balanced, and several of you now see upside risks to your forecasts. The most frequently mentioned upside risk to GDP growth was the possibility that the recent strengthening of private demand marked the beginning of a more normal cyclical rebound in economic activity. To the downside, a number of you cited the recent declines in house prices and the problems in real estate markets, which could have greater-than-expected adverse effects on consumers and on credit availability, and the possibility of more serious spillovers from fiscal austerity and sovereign debt problems in Europe.

On inflation, the shift in the distribution was similar to that for real GDP, with several of you moving your assessment from risks weighted to the downside to balanced risks and with one additional participant now judging inflation risks to be to the upside. Several of you cited large resource gaps and the possibility of a slower-than-expected economic expansion as downside risks. However, a number of you commented that you saw the likelihood of deflation or further unwanted disinflation as having lessened. Some of you noted that highly accommodative monetary policy posed an upside risk to inflation, and several saw another upside risk in the possibility that prices of energy and other commodities would continue to increase faster than anticipated. This concludes my prepared remarks.

CHAIRMAN BERNANKE. Thank you. Brian Sack, you had a comment?

MR. SACK. I have a very brief one. I want to correct a figure that I cited in my answer to Vice Chairman Dudley. I had said that an alternative scenario without asset sales could raise cumulative portfolio income by $100 billion to $125 billion. Unfortunately I was looking at the wrong column. The effect relative to the baseline was actually $50 billion. So the point is right that asset sales can reduce cumulative expected income, but I overstated the magnitude.

CHAIRMAN BERNANKE. Thank you. Are there questions for our colleagues? President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. I have a question for Nellie—it's not a fair question [laughter], so just try, if you could, to do your best to answer. The middle right panels on exhibit 5 and on exhibit 12 deal with European exposure. One of the things we learned in the crisis is that it's not the first degree of separation, it's the second—that is, it's your exposure to the people that have the exposure to risky entities. Steve commented that the Greek sovereign debt situation is probably unsustainable, which suggests that it's moving toward some form of restructuring or default that may be managed or unmanaged, and it may trigger a lot of concern about other countries' debt. Do we have any sense of our system's exposure to the people who have the exposure and the risk that could come from a contagion getting started?

MS. LIANG. In the table in exhibit 12, the middle right, the data are from the BIS consolidated banking statistics, and they are an approximation of the U.S. banking system's exposures to debt in these countries. As the table indicates, it's estimated to be $67 billion to Greece, Portugal, Ireland, and another $52 billion to Spain. Those are small amounts, but the exposures to France and Germany can be large—some of their large banks are big counterparties in transactions that we have. I don't know if we have strong supervisory data, but we have these data, which are not exactly the same. If you give me a minute, I can get that.

MR. KAMIN. Nellie, can I make a few remarks while you're looking?

MS. LIANG. Please go ahead.

MR. KAMIN. We do believe that the Greek sovereign debt is unsustainable, but a couple of points are worth making. First of all, there is some chance that the European Union will decide to bail out Greece completely so that they do not have to default or restructure their debts. I don't know what the chance of that is, but that is certainly in the probability space. Second, we don't place that high a likelihood on a full EU bailout for Greece, and instead we place a much higher likelihood on Greece's undergoing some kind of restructuring. It is our working assumption for our forecast, and it is also our hope, that this process occurs a bit down the road, when investors will have had a good opportunity to "ring-fence" Greece away from the other countries. That is, investors understand that Greece's situation is unsustainable, and when the restructuring occurs, they won't be surprised, they'll be ready for it. If that, indeed, occurs, then, not only is our exposure to Greece close to de minimis, but the exposure of the other large Western European banks to Greece is not so great either. Basically, as long as you can keep the investor sentiment stabilized, the direct exposures to Greece are probably small and can be maintained. The problem that we had back in May was that we were in an atmosphere of very great uncertainty, where nobody had ever seen an industrial economy close to default. In that atmosphere, expectations ran rampant, and all types of global financial markets were highly destabilized. It's our assumption that that will not occur if Greece has a restructuring, let's say, a year or two down the road. But, obviously, that's a hope, not a certainty.

MS. LIANG. President Lockhart, I don't have the BIS data on the U.S. exposures to the core Europeans through the banking systems. These data are going to be updated, and we're expecting to have a new set next week. We can pass that along, and, as you might guess, there are significant exposures to, say, Germany and France, because they're big countries.

MR. LOCKHART. As I said, I realize it wasn't a fair question, but I was trying to get a sense of what the real risk might be. Thank you.

CHAIRMAN BERNANKE. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Mr. Chairman. I have two questions on fiscal policy. First, in exhibit 3, I was a little surprised to see the state and local government showing a positive fiscal impulse this year. It didn't track all the articles I've been reading about big imbalances and layoffs, so I'd just like to understand what the source of that is.

My second question is on the payroll tax holiday at the federal level. How do you see that working through the economy in terms of the data? Are people going to smooth that out, or could it show up in the first quarter as an outsized effect, since this is going to be concentrated there?

MR. REIFSCHNEIDER. Let me answer the second question first. For the payroll tax, we do think there will be smoothing. We're thinking it will bump up growth in consumer spending starting in the first quarter. But our view is that only about 30 to 40 percent of the reduced payroll taxes will show up in increased consumption in 2011, and some more will show up in 2012; consumers will be spreading the spending out over time. People with much lower incomes will probably spend it right away, but a lot of people are not super constrained in terms of liquidity, and, in our view, they're likely to spend it more slowly. That lessens the degree to which spending gets pushed up in 2011 and then falls off a cliff in 2012.

VICE CHAIRMAN DUDLEY. I was worried that it might be hard to read the numbers over the next couple of months, because if you get strong consumption, you're not going to be sure if that's just a temporary factor or not.

MR. REIFSCHNEIDER. Yes, that's definitely true, and even three years from now it will be hard to read the numbers and tell what happened, although we'll do our best. That will be a bit of a question mark as we go through 2011 and into 2012 as well.

Now let me answer your first question. In the bottom left panel of exhibit 3, that's state and local net of their spending out of grants; so, if you calculated their total spending and included the federal grant effect, that would be a slight negative, not a positive. But when you read the news accounts, and you see the trouble that Illinois and California and many states are in, it's natural to wonder how this could be. Part of the answer is to look back at what they did just this last year—while local governments were cutting their payrolls, the states themselves, interestingly enough, actually increased their payrolls a little bit, despite all of the pressures they've been under.

VICE CHAIRMAN DUDLEY. And the pressures could come from the spending side. They could be spending on pensions and health care.

MR. REIFSCHNEIDER. That's true. But they're going to be under a lot of pressure, so they're not going to be increasing their spending by any large amount, and, indeed, spending growth is going to be close to zero this year. So states are by no means any significant contributor to the nation's growth in this forecast.

I think the positive fiscal impulse comes back to the room created by higher tax receipts—we do think tax receipts have been growing and that they'll continue to grow at about the rate of GDP, which, of course, is not super fast. As I understand it, in the mid-session reviews, states' budget situations are coming in somewhat better in a lot of cases than was expected, and, in general, it's not coming in worse than expected, although, to the extent that some of them kick the can down the road, it may be as bad as they expected. Given that, we think that will enable those states to avoid massive cutting in real spending on purchases and things like that, but that is a risk.

CHAIRMAN BERNANKE. Governor Tarullo, did you have a comment?

MR. TARULLO. I just wanted to add a couple of things to what Nellie said in response to President Lockhart. When we get the BIS numbers, there are three things to keep in mind. One, our experience has been that the BIS numbers tend to overstate actual exposures just because of the way they count and what they characterize as an in-country exposure as opposed to an exposure to a foreign subsidiary of your own country's companies.

Two, since May we've been tracking this pretty carefully through the LISCC, and it's pretty clear that our large institutions have been reducing exposures not only directly to the periphery, but also to those who hold a lot of periphery debt. How much? That's a little harder to get our arms around, but the trend has been clear. In contrast, as Nellie pointed out, the money market funds don't have a penny less exposure to Europe today than they did a year ago—they've just reallocated which countries the exposure is in.

Three, if you look at credit default swaps for the large European banks, the big French and German banks have not seen that much of a run-up in their CDS spreads. One assumes that that's in no small part because of an assumption that the French and German governments would back those banks were they to take a significant hit from Spanish, Portuguese, Irish, and Greek banks, which is probably a reasonably well-grounded assumption.

So, for all of those reasons, it's really hard to come up with numbers, and most of us who have been puzzling over this for the last six or eight months are left with a sense that it's a pretty big potential exposure if things really go south, but it has been getting somewhat smaller over that same period of time.

MR. LOCKHART. Thanks, Dan.

CHAIRMAN BERNANKE. President Kocherlakota.

MR. KOCHERLAKOTA. Thanks, Mr. Chairman. I'm going to follow up on this line of questioning from President Lockhart and Governor Tarullo. It's a question we've been puzzling over in Minneapolis. It seems that if you look at the sovereign debt in Europe, the situation looks just as bad today as it did in April and May in terms of the spreads. And yet there doesn't seem to be any evidence of the contagion that alarmed us so much in May—I think the VIX popped over 40 at some point. So that contagion story that was such a factor in our discussion in May doesn't seem to be there now. I'm looking for stories to explain it.

MR. KAMIN. Shall I start and you follow?

MS. LIANG. I'll start this one. Just to corroborate Steve's remarks, in April, May, and June, when the European CDS did start rising, the correlation with U.S. asset prices was enormous. The second time around, it just wasn't visible at all. In large part, it has to do with some of the facilities that were set up in Europe.

MR. KAMIN. Well, I think that's the major element. When this erupted in May, it was very novel, as I mentioned before. We hadn't really had the experience of an industrial economy coming close to default—though, of course, we had had many instances with emerging market economies—and there were no institutions in play to address the problem. There was tremendous uncertainty about how far European authorities would go to put money on the table to backstop these economies. So in that situation of tremendous uncertainty, you had dislocation throughout global markets. Since then they've responded in a number of ways that have given investors heart.

For example, they bailed out Greece in a somewhat ad hoc manner, and then they followed that up with actual institutions, such as the European Financial Stabilization Mechanism and the European Financial Stability Facility, which were established to backstop further sovereign runs. They were used in the case of Ireland, and in fact, they came to Ireland's rescue somewhat more readily than to Greece's.

More recently, recognizing that they still don't have enough money in the kitty, they've been actively discussing enlarging it. Ideally, that would have gone through this month, but in fact, it was postponed to a European summit in March. In addition, it's now recognized that the stress tests of banks that were done last summer probably were not severe enough, and they're undergoing another round of tests. All of these things together are giving investors some confidence that the situation is getting dealt with.

CHAIRMAN BERNANKE. Thank you. Governor Raskin.

MS. RASKIN. Thank you, Mr. Chairman. This question is for Nellie, and it refers to the real estate piece on exhibit 11. You said that the estimated losses from potential mortgage put-backs ranged from $25 billion to $75 billion and that they could be material for a few firms. You then indicated that this estimate reflected a markdown in light of notable settlements with Fannie and Freddie. My question is whether the markdown took into account future probable put-backs. In other words, did you look at the full universe of what those put-backs could be?

MS. LIANG. The estimate I cited comes from work by Mike Alix and staff at the New York Fed, so it was done in a pretty comprehensive way. They literally looked at the private-label securities that these firms had. They had the loan portfolio of mortgages originated. They had the firm-specific default rate for each bank. They estimated how much of that might be attributed to deficiencies in the process, and then the strength of the securities. On the basis of that, they then took estimates of the GSE put-backs—the recent claims give you some idea. And then they had to assess how much the private-label investors would be able to claim. So that's why there's a range, because they had to make some assumptions about how high those claims could be. These current assumptions are that the private-label investors would not be more successful in putting back than the GSEs, which have a pretty sophisticated system. To sum up, the estimate is based on the full portfolio of originations, firm-specific default rates, and firm-specific put-back assumptions. So I think it does incorporate the full view. The $25 to

$75 billion is a pretty broad range, though, because it’s hard to know how successful they’ll be in court, which is really the probability you have to write down.

MS. RASKIN. But leaving the private-label stuff aside, did you take into account the full range of GSE put-backs?

MS. LIANG. Yes, I think we have the estimates of the outstanding GSE put-back claims, plus an estimate of claims to come. I think that’s all in there.

MS. RASKIN. Thank you.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. I’d like to ask a question about exhibit 7, the bottom right-hand corner, and, in particular, about commodity prices. First, it’s uncanny that both lines moved straight to the right. Also, I’m curious to know what your nonfuel index is based on. You may have mentioned it.

MR. KAMIN. No, I didn’t.

MR. FISHER. Okay. Would you kindly mention it?

MR. KAMIN. It’s based on a combination of indexes of different types of nonfuel commodity prices that are published by the IMF, I believe. We take them with the IMF weights and we reconfigure them to match the weights that are based on United States imports. Once we have those weights, we re-weight each group, and the groups are beverages, other food, metals, and agricultural materials. We then get futures curves for some of the different commodities in each of those groups to create projections of these commodity prices for each group, and then, using the weights, we come up with the aggregate projection.

MR. FISHER. So it’s more model-based and it uses futures curves to the extent we have them.

MR. KAMIN. Well, it's much more futures-based than it is model-based.

MR. FISHER. And we know the record of futures curves.

MR. KAMIN. Right, exactly.

MR. FISHER. I point that out.

MR. KAMIN. It is exactly based on futures curves, which are highly fallible and yet not apparently more fallible than humans. [Laughter]

MR. FISHER. Very good. I have just a couple of points. First, for certain key industrial commodities, such as iron ore and so on, I wouldn't underestimate the impact of the Australian floods. The backup in shipping and the short-term price pressures that seem to be emerging on that front are extraordinary. Second, I still wonder about the substitution effects; maybe this could be the subject of another conversation. I'm not talking about physical demand, which, one would assume, will grow over time as the economies improve and as China moves up the food chain, and so on. I'm talking more about demand that's financially driven. For example, if I put on my old hat as an investor, right now I'd be looking for greater returns on my portfolio. Of course, the U.S. stock market has done brilliantly, but, with my surplus liquidity, I'd be tempted to look to, say, Brazil or Russia with at least a portion of my portfolio. As these countries erect more capital barriers—and the Brazilians have been a bit active here—a perfect substitute for Brazil, if you plot the two markets together, is the copper market, and there's no carrying cost of copper futures. A perfect substitute for the Russian market is the oil futures market. My point is that I didn't notice any discussion of how much of the trade is financially driven and how much of it is physically driven, and I think that's something we need to contemplate. I don't want an answer right now, but I think it's something we need to continue to think about in terms of driving prices upward and becoming a vicious circle.

Third, I just want to say a word, for what it's worth, about Chinese inflation. What I'm hearing from my contacts is that, for retailers who sell nonfood goods in the United States and source in China, the demands are now 40 percent. It's a combination of labor inflation running about 15 percent per year as computed in their five-year plan, and transportation and other costs. The U.S. retailers hope to whittle it down to 8 to 10 percent through negotiation. According to one CEO of a major retailer, who at one point ran the largest retailer, this is the worst inflation he's seen in 25 years, and it's sourcing out of China and alternative markets.

MR. KAMIN. Well, that's very interesting. I would just mention that, first of all, we are quite focused and eager to put more resources into looking at the effects from within China, such as wage pressures, on the prices of the goods we import from them. Second, we have been doing and will continue to do a great deal of work trying to parse out the relative factors pushing up commodity prices. We are very attuned to the role of futures market and financial demands in that regard, and we'll continue to do work on that.

MR. FISHER. Thank you.

CHAIRMAN BERNANKE. Other questions? [No response] If not, I understand that there are drinks available followed by dinner, and there will be no business, just for your convenience. Tomorrow let's start at 9:00 a.m. sharp with the economic go-round. Thank you.

[Meeting recessed]

January 26—Morning Session

CHAIRMAN BERNANKE. Good morning. Why don't we get right to work and begin our economic go-round? President Lockhart is up first.

MR. LOCKHART. Thank you, Mr. Chairman. The improved tenor of the incoming data has been clearly reflected in the comments coming from business contacts in the Sixth District in this intermeeting cycle. The best characterization of those comments is more optimistic than before the December meeting but still a bit tentative, cautious, and reluctant to place significant bets on stronger demand. As the data show, the pace of consumer spending has clearly picked up, but our conversations with retailers, some of which have national scope, convey little sense that they are preparing for a stronger year in 2011. I draw this conclusion from our queries about inventory, store expansion, and hiring. The inventory of unsold homes continues to weigh on residential real estate markets in the Southeast. Reports from our survey of Realtors are consistent with the current Tealbook's forecast of a modest drop in house prices. The data also indicate that business investment in equipment and software remains buoyant. Our contacts in the region tell us the lion's share of this investment is oriented to further productivity enhancement and streamlining of supply chains and distribution systems, not a response to an improving economy. Our directors and contacts pretty uniformly stated the view that gains in labor productivity have not been exhausted and will continue to take priority over hiring.

Regarding labor market conditions and prospects for hiring, our most recent round of discussions with business leaders in our District evoked some widely held views that may be relevant to yesterday's discussion of the NAIRU. We heard a lot of comments to the effect that job descriptions have been, and continue to be, transformed to require broader skills, modern technology savvy, and generally a higher degree of versatility and flexibility, even in positions that are relatively low on the totem pole. We heard such comments about truck and car sales personnel, truck drivers, and agricultural workers, to mention a few. The CEO of a large auto retailer described the extension of the salesperson’s job into financing arrangements, warranty negotiation, and documentation. This seems to be occurring across a spectrum of industries and occupational lines. The message we heard is that the new employee is not so easy to find and that many of the unemployed lacked the skills and the attitude to fill these redefined jobs.

Turning to my forecast, with some comparison to the Tealbook, my economic growth forecast has been revised up a little, but not materially. In reality, my forecast for growth, unemployment, and inflation are really not much changed from my November submission. I continue to hold the view that headwinds from a variety of sources will restrain growth to a pace a little under 3½ percent this year, keep unemployment elevated, and allow for only a modest rise in core inflation.

My forecast for inflation is slightly higher than the Tealbook’s, and, as I mentioned, my forecast for GDP growth is slightly lower. On balance, I don’t think the differences in the near-term outlook between what I submitted for this meeting and what I read in the Tealbook are all that significant. While I have not incorporated the recent rise in commodity prices into my inflation outlook, for largely the same reasons delineated in the Tealbook, my recent conversations with business contacts have introduced more caution into it. These conversations reflect a growing sense that attempts to pass through higher commodity prices to the consumer are about to be implemented across a range of products. I heard that price hikes in apparel, transportation and delivery services, household goods and hardware, and grocery products are in the works. There is much uncertainty whether these price increases will stick, but this is the first indication I’ve heard that businesses believe they have pricing power. Influenced by this anecdotal feedback, I have changed my assessment of the inflation risk from weighted to the downside to balanced. I also think the specter of deflation is less likely today than it seemed last fall, in part due to the effect of our policies. Regarding economic growth and employment, I still see the risks as broadly balanced. However, if pushed to express a bias one way or the other, I am now tilting in the direction of the upside. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Rosengren.

MR. ROSENGREN. Thank you, Mr. Chairman. Over the intermeeting period, the tenor of the incoming data has improved. Most private forecasters have been raising their estimates of the last quarter of 2010 and the first quarter of 2011. Like the Tealbook, I am expecting growth over 2011 to be between 3½ and 4 percent, somewhat above the most recent Blue Chip forecast. While the consumption and investment data have generally improved, continued problems in housing and state and local government spending should prevent the economy from growing much faster than 4 percent this year.

The problems with residential investment cause me particular concern. Boston staff has done some research that suggests that spillover effects from a weaker housing market are a significant risk and found that the magnitude of the risk was qualitatively very similar to the scenario in the Tealbook that involved an intensified real estate slump with spillover.

Even with somewhat more robust growth, it is likely to be at least four years before we reach full employment. While we have discussed issues with structural employment at length, I would highlight that both directors and members of my various councils have highlighted how easy it is to hire qualified workers. And I would note that the New England labor market is much tighter than most other parts of the country, because only in Rhode Island is the unemployment rate above the national average. I will give just one example. A retail grocer in

New England is planning on expanding by opening four additional grocery stores and needed to hire 500 workers. He had more than 4,000 applications for the jobs, with lines extending well around multiple city blocks. And he was struck by how many had previous experience running bakeries, butcher shops, other grocery stores, or had other skills particularly relevant to the grocery business. Contacts expanding in high-tech, restaurants, and financial services have similar stories and have remarked on how many highly qualified candidates are available. The problem remains too few jobs, not too few skilled workers.

Given the excess capacity in labor markets and the downward trend in both core inflation and compensation, returning to a 2 percent core inflation rate in the medium term will certainly require years of much stronger data than we have seen to date. We still see evidence of this in the inflation data: Despite the increase in energy prices, many key areas have experienced price declines over the past year, including motor vehicles, household appliances, and apparel. The low inflation rate and the likelihood that it will remain below our target over the medium term gives us ample room to encourage faster improvement in labor markets and to put the economy on a stronger footing.

I would like to compliment the staff on the material they are providing in the financial stability report. I also remain concerned that the European problems pose downside risks to the United States. At the last meeting, I highlighted the risk that money market fund exposures to Europe could be a channel of transmission from Europe to the U.S. financial markets. Some of the smaller money market funds over the past year have had exposure to peripheral sovereign debt, and, when worrying about the financial stability of money market funds, it is the smallest, rather than the largest, that tend to pose the greatest risk of breaking the buck and initiating another broad run.

A second transmission channel I have not focused on in my earlier comments consists of European banks in peripheral countries. The pictures in the financial stability packet show how much the CDS spreads have widened for Spanish banks, as more attention has been given to sovereign debt problems in Spain. Banco Santander, one of the largest banks in the world, has had its CDS rise from 83 basis points at the beginning of 2010 to 292 basis points more recently. The CDS on the other large Spanish bank, BBVA, has risen from 85 in the beginning of last year to 314 more recently. Investor concerns about some of these large European banks highlight the urgency of getting our own economy on a solid footing, so that we can withstand any additional significant financial shocks in the coming year. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Hoenig.

MR. HOENIG. Thank you, Mr. Chairman. My outlook for the District economy is very similar to that for the U.S. economy. We expect improvements, as others have said and others will say around the table. Therefore, I'd like to spend just a few minutes, if you will, being like a "broken record" again and focusing on asset values and some of the things that I see coming and some of the things that I am worried about from a broad perspective.

Certainly, we have seen and discussed higher commodity prices, but we've also seen lower interest rates and lower exchange rates, which have fueled a surge in farmland values nationally, not just in my District, raising concerns for me about inflation in asset values in agricultural real estate markets. Since June, for example, grain prices have doubled, and futures markets suggest that prices could remain elevated through 2014, but historically low interest rates and low cap rates are needed to justify the current farmland values that we're seeing across the country. By the beginning of 2010, U.S. farmland values had risen more than 25 percent from their 2005 levels, lifting the total value of U.S. farmland to north of $2 trillion. Over the past year, farmland values have posted double-digit gains, with additional gains expected in 2011. While farm operators own the majority of U.S. farmland, nonfarm investors are buying more land now; according to a recent survey by Iowa State University, investors accounted for about a quarter of Iowa's farmland sales. Low interest rates, which have pushed capitalization rates down, contributed to the recent spike in farmland values as one asset class. And I use farmland as an example, because other asset classes are being affected as well.

Capitalization rates on U.S. farmlands have fluctuated over time, falling in periods of negative real interest rates, like the 1970s and the 2000s, and rising during periods of higher real rates, like the 1980s. According to the USDA data, for example, Nebraska's capitalization rate on cropland was 5.1 percent at the beginning of 2010, well below its historical average of 7½ percent. Despite regional variation, capitalization rates on farmland values have fallen to record lows across the nation, with rates below 5 percent in almost all states. Oklahoma and Texas have lower capitalization rates due to mineral rights, inflating land values even further.

Given the low cap rates, farmland values face significant interest rate risk. For example, irrigated cropland in eastern Nebraska is valued at about $5,000 per acre. A historically low capitalization rate of 5 percent is needed to rationalize this land value at current corn prices and yields. If interest rates were to rise and lift cap rates to their historical average of 7½ percent, the capitalized value of irrigated farmland in eastern Nebraska would fall by a third, to $3,300 an acre. If cap rates were to rise to 10 percent, as they did during the 1980s farm crisis, land values could drop by half. Additional analysis suggests that other regions face similar kinds of effects. Rising interest rates could also cut farmland values by reducing farm revenues. Historically, higher interest rates tend to raise exchange rates, thus limiting agriculture exports—even though we do have strong global demand right now—which, in turn, depresses commodity prices and farm revenues.

In 1981, the spike in real interest rates led to higher exchange rates and contributed to lower agricultural exports. Exports, commodity prices, and farm revenues dropped, which pushed farmland values to their 1985 lows. If a similar event occurred today, farmland values could fall. For example, if cap rates return to their historical average and corn prices drop to just $4 a bushel, which was the 2009 average, irrigated land values in eastern Nebraska would fall by almost 50 percent, to $2,700 per acre. Other regions face similar risks. In sum, rising interest rates could trigger a sharp decline in farmland values.

Yesterday we talked about asset values for commercial and residential real estate, and I understand that situation. But I'm also thinking about the future and what values we are going to distort. About 450 community banks and regional banks across the country have high concentration levels of agricultural loans—above 300 percent of their capital. That was the commercial real estate kickoff for us. If you lower that threshold just a little, the number of banks with those exposures increases. Some of the largest banks as well had agricultural loans and land loans, but had pulled back from those. But as these values and this enthusiasm increase, I think you'll see those large banks go back into making land loans or other operating loans in this sector. Also, the Farm Credit System announced this morning that they were reducing their interest rates across the board by 35 basis points, because their profits are so good, their capital is rebuilding, and they want to provide this interest rate benefit to borrowers, because demand is back.

My point is that we want to be thoughtful not just about the problems we have—and we have plenty of them—but also about the problems we may be buying across a number of asset classes. It's the unintended consequences that I'm concerned about right now. Thank you very much.

CHAIRMAN BERNANKE. President Hoenig, have you brought these issues to the supervisory group?

MR. HOENIG. Yes. In fact, our senior person in Kansas City is working with the folks here at the Board. We've suggested that we need to be thinking about how we deal with these banks on a national basis in terms of the underwriting standards that go with this situation. What happens, of course, is that, when the asset values go up, the bank's loan-to-value numbers go up, and the bank feels very secure. But when developments start going the other way, the bank gets caught below the line.

CHAIRMAN BERNANKE. Governor Duke.

MS. DUKE. I'd like to add to that. I've talked to a number of community bankers, and they tell me that a large proportion of these sales are for cash, so they're not necessarily financing them. What they're afraid of is that the farmers are using their cash in the purchases today, and that, a couple of years from now, when they have worse years, they'll be back to borrow against the cash that they invested.

MR. HOENIG. Right. There are strong cash flows coming off their property right now.

MS. DUKE. It's not the financing of the property.

MR. HOENIG. But there is a lot of financing of the land part. There are also a lot of loan repayments, because the cash flows are so strong right now. But that's my point: Things are so good that you can move the price up, and then you are only borrowing 50 percent to 70 percent against it and assuming that the value will go up further. Of course, two or three years from now, you will get caught behind, and that's the thing we're worried about as we share this.

CHAIRMAN BERNANKE. But the particular emphasis ought to be on the exposure of the financial institutions.

MR. HOENIG. Absolutely.

CHAIRMAN BERNANKE. President Evans.

MR. EVANS. Thank you, Mr. Chairman. Many of my business contacts started off saying that things weren't that much different from our last call. As we talked further, it usually became clear that their attitudes continued to improve this month. My inference is that their businesses are picking up in line with their rising expectations. For example, manufacturers have been doing well recently and are saying they expect that to continue. The Chicago purchasing managers' survey rose sharply in December and picked up further in January to its highest level in more than 20 years—that result will be released January 31. More firms appear to be expecting increases in demand and laying the groundwork to expand production when the time comes. ArcelorMittal reported record sales to steel service centers who are building inventory in anticipation of demand, and this is coming on top of a good base of orders from automakers and other original equipment manufacturers.

Many firms remain reluctant to make permanent additions to workforces. However, the CEO of Manpower told me that many of their client firms have asked them to be ready to supply more temps in the next few months. The clients are expecting a burst of demand, but they are uncertain about the timing, and, when it does materialize, they expect to have a hard time hiring workers quickly enough by themselves. He also mentioned that a number of firms have openings that they are taking longer than usual to fill. These companies feel that there are a lot of good people out there right now, and, with demand not fully recovered, they can afford to wait and make sure they get the best person. This is probably consistent with the results that we saw yesterday on the drop in recruiting intensity.

With regard to costs, although there is talk about higher commodity prices, few of the increases are being transmitted into higher prices for final goods and services at the moment. Manufacturing CEOs that I spoke with suggested that their planning for these cost increases was still adequate to avoid outsized price increases. They do devote considerable resources to managing these costs, and, at the moment, they think things are okay.

U.S. steel manufacturers are trying to decide how much capacity to bring back online. This is a difficult decision, given foreign competition. Foreign orders today would hit the market in six to eight weeks, about the same length of time as domestic capacity would take to ramp up, so, if it came at the same time, that would be bad for prices, in their view. Looking ahead, these forces are a potential dampening factor for currently high steel prices. Pass-through is also an issue. One of our financial contacts noted that hedge funds are shorting firms that are exposed to commodity price increases on the assumption that they lack the pricing power to pass these higher costs on to customers. We'll see.

I see the anecdotes as being consistent with the incoming data, which show that activity is on a better upward trajectory right now. I hope this momentum will build into more consistently solid growth than we saw in the first year and a half of the recovery. We need it, because we've got a long way to go.

The Board and Bank staff analyses on labor markets summarized yesterday have been helpful in honing my thinking about current resource gaps. Undoubtedly, the baseline for unemployment has risen some, but there continues to be substantial slack in labor markets. And if monetary policy can help ameliorate this unsatisfactorily slow decline in unemployment, that's our policy job, in my judgment.

Turning to the outlook, our forecast for economic growth and inflation and the rationales underlying them are broadly similar to the Tealbook's. With regard to growth, I'm more optimistic today than I was at our last meeting, but I need to see several more months of consistently better data—say, running through the spring—to be pretty confident that we've experienced the sustainable step-up in growth that's in our forecast.

With regard to inflation, our forecast has it rising some over time but still coming in under 1½ percent in 2013. Our battery of statistical approaches to forecasting inflation continues to point primarily at further declines or, at most, flat inflation at a low level. However, we decided to go with an inflation projection that rises somewhat over time on the basis of what appear to be inflation expectations that return towards a mandate-consistent level. That's what we need, but it still seems a touch speculative to me. We'll actually have to see underlying inflation move up in line with these forecasts in order to have confidence in these expectational effects. In light of these forecasts, I see only a small risk that we'll face an unpleasant conflict between our employment and inflation goals over the foreseeable future. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Pianalto.

MS. PIANALTO. Thank you, Mr. Chairman. The most recent data have led me to raise my estimate of growth in the near term, but this morning I'd like to focus my comments on the more policy-relevant medium-term outlook. My outlook is for less rapid growth in 2012 and 2013 than the Tealbook baseline. My outlook for inflation gradually heads higher through 2012 and 2013 and is above the Tealbook baseline.

Given the importance of this outlook for my policy perspective, I want to talk about the key aspects of my projection. First, I see the economy as only slowly adjusting to the shocks of the recession. As one of my business contacts noted, the recovery seems to be a "tale of two cities," where parts of the economy are more or less recovering, while other parts are still facing considerable demand uncertainty and receiving little working capital. I suspect the more positive aggregate data are masking some of the current unevenness of the recovery. Major sectors of the economy are still facing significant headwinds that will only slowly abate.

With the employment-to-population ratio still 5 percentage points below its pre-recession levels, it is important to look for clues about hiring plans. The special Beige Book survey tells us that there are just as many firms seeking to expand their workforce this year as there are firms planning on holding their workforce steady. That could be read as a pretty optimistic indicator for employment growth, but, based on what we've learned from our Beige Book respondents, I think these survey responses are unlikely to result in a dramatic increase in employment growth. Specifically, in follow-up questions we asked these respondents, we discovered that, while most of them anticipate some hiring, it's not that much and primarily will be on a highly selective basis.

The path toward higher aggregate employment is still complicated by the large fraction of small businesses that are not expanding. For many of these firms, job growth is likely to be slowed by problems of credit availability. My staff recently published some estimates using the New York Fed's credit panel and other data sources to quantify an ongoing problem of credit availability for small businesses linked to home equity lending. They found that roughly one-quarter of small businesses rely on equity in their homes for financing, whether through personal guarantees or home equity lines. As a result, declining home prices can reduce the amount of collateral and, hence, the amount of credit available for many small businesses. The affected businesses are predominantly smaller firms, yet our researchers found that the aggregate reduction in credit through home equity is potentially quite large. A banker on my board of directors confirmed that this was a critical issue for small businesses and that it would continue until the owners' residential equity positions improved. Thus, it seems likely that weaker credit availability for start-ups and other small businesses constitutes an ongoing headwind. These tepid hiring plans and the small business credit issues are just a couple of examples of ongoing headwinds that I see dampening output growth over the medium term. Partly for these reasons, my GDP projection is at the low end of the Committee's range and below the Tealbook path.

Even more critical to thinking through the policy environment is the medium-term outlook for inflation. The Committee's projections for 2013 range from 0.6 percent to 2.0 percent, a range that's wide enough to be associated with very different policy paths. As I noted earlier, my projection for inflation is above the Tealbook's, but it's in the middle of the Committee's central tendency. PCE inflation statistics reveal that the typical U.S. consumer's purchases have experienced a significant disinflation since 2008. The good news in this area is that my staff's analysis of the incoming CPI data point to a leveling-off of the underlying trend inflation rate. Indeed, the median CPI was up 1 percent over the last six months of 2010 on an annualized basis after being up just 0.3 percent for the first six months in 2010. A little over a third of the consumer's market basket had prices that were lower at the end of 2010 than they were at the end of 2009. However, the disinflation momentum was more prevalent in the first half of 2010.

While these developments suggest that disinflationary pressures may be drawing to a close and that the risk of outright deflation has diminished, inflation clearly remains very low.

At this point, in the face of continuing weak labor markets, labor costs are likely to increase only gradually, which should limit the upward momentum in inflation even if the recovery accelerates. The BVAR model that my staff uses has the characteristic that inflation is quite sensitive to unit labor costs and not so tightly connected to GDP growth. Inflation expectations are also a critical factor in the inflation forecast, but I see current inflation expectations as being consistent with my outlook. In the Cleveland Fed model, which accounts for a time-varying inflation risk premium, inflation expectations are at or below 2 percent over the projection horizon. Inflation expectations near mandate-consistent levels, but above current inflation rates, should support a gradual rise in inflation toward 2 percent. And my projection has core inflation reaching 1.7 percent by the end of 2013.

Given the improving data and stronger sentiment we have recently seen, it is tempting to boost the outlook for output and inflation. But we've seen swings in the data before that have proven to be only temporary. I prefer to think about the stronger incoming data as helpfully offsetting some of the downside risks to the economy that I've been worried about for some time. Accordingly, my near-term outlook is now brighter relative to December, and I've shifted my balance of risks for both growth and inflation from being on the downside to being balanced. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. Economic conditions in the Third District have continued to improve. The regional economy has shaken off the summer doldrums and recovery is gaining some momentum as it enters the New Year. Our business outlook survey of regional manufacturing showed strength in both December and January, and the general activity index is up to about 20 in both of those months. Underlying that, the indexes of new orders and shipments both improved substantially in January. Our manufacturers expect activity to continue to improve over the next six months. Perhaps more encouraging is the jump in the employment index from 4.3 to 17.6 in January, the highest value we've seen for that index since April 2006.

Third District retailers and auto dealers report increases in sales at the end of last year compared with year-earlier levels. Although service sector firms gave some mixed reports, on balance, activity has been rising. The health care and information technology sectors showed some growth, and activity related to real estate, construction, and finance, while not great, seemed to have firmed a bit and stopped declining.

Payroll employment in the three states increased on a three-month moving average basis ending in December, based on data released yesterday. The unemployment rate has been moving steadily down, falling to 8.7 percent in December for the three-state area, from a high of 9.4 percent in July—a drop of 0.7 in less than six months. This is consistent with the improvement in the employment readings we receive in our manufacturing survey.

On the pricing front, we continue to see increased price pressures. Many of our manufacturers continue to report an increase in input costs in January, and there are growing signs of an ability to pass these prices on to customers both in current prices and in expectations of future prices. During the early part of the recovery, firms held back on price increases even though they faced increased costs. That attitude appears to be changing. For example, one of our directors is a national manufacturer of floor coverings; the company has suffered greatly through the housing bust and is putting through a 5 percent price increase in light of the continuing rise in materials costs. This is his first price increase in two and a half years, and he reports that others in his industry are facing the same challenge, as margins continually get squeezed. Another director, from a large national baking company, says that his industry and he will have no choice but to raise prices this year in light of higher food commodity prices—that is, flour, sugar, et cetera. These two anecdotes do not by themselves constitute compelling evidence of the future path of prices, but they are illustrative of our business outlook survey's prices-received index, which has turned abruptly positive, rising from minus 3.3 in November to plus 9.4 in December and 17.1 percent in January. That's the highest value it has taken on since August 2008.

Thus, my sense is that, as the recovery picks up steam and firms become more convinced that demand increases are going to be sustained, they will feel more confident that they can put through price increases and have them stick. Given how much ground these firms may feel that they have to make up, these price increases may move in a fairly nonlinear manner once they start. Labor costs are not the only things that matter to these firms when it comes to pricing. Thus, looking at wages and unemployment may not be the most important key to understanding future price pressures. Of course, our policy needs to focus less on what prices and inflation have done over the last year and focus more on what they're likely to look like in the coming year, and on this score I see the risks clearly to the upside.

Turning to the national economy, I've made little change in my forecast since our submission in October. I'd been interpreting the summer slowdown as a soft patch, not the start of a cumulative decline in activity. Thus, acceleration in activity seen in the fourth quarter was consistent with my outlook. I expect economic growth to be about 3½ percent per year over the next two years. I believe that the data are consistent with a self-sustaining recovery. I think that firms are becoming more convinced of that as well. My economic growth forecast is a bit weaker than the Tealbook, and Philadelphia's DSGE model suggests that growth may be stronger than my forecast. Thus, I believe that there are upside risks to my growth forecast, as the usual dynamics of an economic recovery could outweigh the drags from household deleveraging and the housing slump.

I also see a somewhat faster decline in the unemployment rate and a faster acceleration in inflation than the Tealbook. As I've said at previous meetings, I am very wary of basing policy on some notion of an output gap or an employment gap, because both have both conceptual and measurement problems. One only needs to look at the range of estimates of the natural rate of unemployment we discussed yesterday and the error bands around those estimates to see that the unemployment gap measures are not very precisely estimated. Output gaps suffer from the same measurement issues that the unemployment gap does. Orphanides's research shows that ex post revisions of the output gap are of the same order of magnitude as the gap itself, and it's particularly hard to measure the gap near cyclical turning points. This is probably one reason the gap gets little weight in empirical estimates of New Keynesian Phillips curves. Indeed, the Philadelphia model suggests considerably higher inflation pressures than the Tealbook. Again, my view is that inflation risks are to the upside in the medium term.

I think we need to remember these risks as we contemplate policy in an environment in which output growth and probably employment growth are likely to be above trend. In my view, if we focus on the growth rate of output and the growth rate of employment rather than the levels of gaps, we will have a better chance of staying ahead of the curve rather than falling behind it. Taylor rule formulations based on growth rates, for example, suggest that monetary policy is about right, and, thus, there's no need for extended LSAP programs that seek to drive short-term real rates lower. Given my outlook and my focus on growth rates, I believe we will need to begin removing policy accommodation considerably sooner than anticipated by the Tealbook.

We need to begin preparing for that time by discussing what our exit path will look like and the communication strategies we will need to implement it.

As a brief aside, I draw the Committee's attention to yesterday's handout of our economic projections. The charts presented on the risks to GDP and inflation have flip-flopped fairly dramatically since November. GDP and inflation risks were heavily weighted to the downside in November, and now those risks are marginally weighted to the upside. We should make sure that the minutes and our statements are consistent with this change in direction, and I'll have more to say about that in the policy go-round. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. In the course of our discussion yesterday about the natural rate of unemployment, I mentioned that I thought it would be useful for us to consider a wide range of measures of inflationary pressures, in addition to the natural rate of unemployment and the gap between the current unemployment rate and the natural rate, and I'll elaborate on that now. In discussions with a number of our local contacts, we asked about their ability to raise prices, and the basic response was the same. Many firms are facing input cost pressures because of the rise in commodity prices—some of these firms are actually producing those commodities, so they're pretty pleased about that [laughter], and we should keep that in mind. Other firms are trying to pass these input prices on to their consumers, but they are not finding, as a general rule, that the demand is sufficiently strong to support these attempted price increases. As a result, firms are absorbing the input cost increases by cutting margins and not by raising prices. In a similar vein, we heard from contacts about their plans for wage increases. There are signs of labor shortages in North and South Dakota. Also, in some high-growth areas, like health care and IT, wage pressures are starting to build. All in all, though, wage increases were relatively moderate from 2010 to 2011. So, if you look at the most granular level, inflationary pressures do seem subdued in the Ninth District.

If you look at the national level, it seems to me that there are a number of possible ways to think about gauging inflationary pressures, that is, to think about the degree of slack in the economy. One approach that we tend to emphasize is the difference between the current unemployment rate and the natural rate of unemployment, but as discussed yesterday, there are many uncertainties associated with that approach.

So I'll suggest three deliberately simple-minded approaches that we could add to that approach. The simple-mindedness of these approaches should give us some confidence that they will be robust across a wider class of models, but, of course, it's useful to augment them with more econometrically and theoretically sophisticated approaches as well.

The first is a very simple NAIRU approach. It just looks at the difference between the current inflation rate and lagged inflation, and it's trying to get at the acceleration in inflation. A lot of slack should lead the inflation rate to fall, and if there's not much slack, then the inflation rate should be falling very little or rising. Second is the New Keynesian approach. It takes the current inflation rate and compares it with expected inflation. If you look at a simple, simple version of the New Keynesian Phillips curve, this difference is proportional to the output gap. Third is a purely statistical approach, and here I'll refer to the Stock-Watson recession gap that we heard about in Jackson Hole. That's a difference between the current unemployment rate and the minimal value of unemployment over the current and the past 11 quarters.

Consistent with what I said about the Ninth District, all of these aggregative measures indicate that inflationary pressures in the U.S. are currently low. Starting with the NAIRU approach, inflation decelerated in 2010, and core inflation decelerated by 90 basis points from

2009 to 2010. The New Keynesian measure gives a similar result. If we look ahead at inflation forecasts, zero-coupon inflation swaps, the median Blue Chip forecast, the Cleveland Fed forecast—they're all pointing to inflation of around 1.7, 1.8 percent in 2011. So this measure, the difference between 2010 inflation and what we expect in 2011, is also negative, which implies that inflationary pressures are low right now from the New Keynesian perspective, as well. Moving to the third measure, unemployment was around 5 percent in the first quarter of 2008, so the Stock-Watson recession gap is large.

But what about as the year progresses, as President Plosser emphasized? I think it's useful to contrast what I'm going to say to what President Evans said in his remarks. Which one of us turns out to be right will be critical in thinking about policy as we go forward. At the granular level, we received some information that firms were anticipating larger wage pressures by the end of the year. Of course, we have to wait and see whether that transpires or not, but those kinds of wage pressures would be much more difficult for firms simply to absorb in their profit margins and would more likely to lead to price increases.

What about at the more aggregative level? The simple NAIRU approach is going to tell you that the forecasts—from the zero-coupon inflation swaps that I mentioned, the Blue Chip forecast, and my own projection, for that matter—are all for inflation to accelerate in 2011 relative to 2010. That measure would say we've got inflationary pressures building by the end of 2011. Now to the New Keynesian approach. By the end of this year, the inflation forecast for 2012 compared with the forecast for 2011 shows a relatively small difference, something like 1.8 to 1.9 percent. So by the end of 2011, the New Keynesian approach is going to be saying that there's not much of a gap anymore, and, again, it will imply that inflation pressures have built by the end of the year. Finally, the Stock–Watson recession gap says unemployment was near 5 percent three years ago, as I said. By the time you roll to the beginning of 2009, unemployment is 8.2 percent. So if unemployment is falling to near 9 percent by the end of 2011, that gap has now shrunk from around 4½ percent to less than 1 percent. Stock and Watson also proposed a similar gap in terms of capacity utilization, and that version of the gap seems likely to vanish completely by the end of the year.

In my view, the expected paths of all three of these measures of inflationary pressures would point to a need for policy tightening by the end of the year. But in all three, it really comes down to: How is inflation going to behave over the course of 2011? I think we should start to plan for various contingencies now. My own prediction, as I've described, is that we would have to start to think about tightening by the end of 2011, which is more than a year earlier than the Tealbook's projection—and I was interested to see that it's only about six months earlier than what's in the New York Fed's forecast. Monetary policy is all about contingency planning, and I'll talk about one way to construct a plan for all of the possible contingencies that we face in the next go-round. Thanks a lot.

CHAIRMAN BERNANKE. President Kocherlakota, I was a bit confused on one point. Stock and Watson in their paper actually projected inflation, and they suggested there was significant deflation risk. Did you get a different result?

MR. KOCHERLAKOTA. I think they're going to turn out to be wrong on this point. If you use the forecasting model that they talked about in Jackson Hole, they would have forecast significant disinflation from that point forward. All I was saying is that, by the end of 2011, that model is not going to have those same pressures in there.

CHAIRMAN BERNANKE. Okay. Thank you. First Vice President Moore.

MR. MOORE. Thank you, Mr. Chairman. In the 12th District, holiday sales for retailers generally exceeded expectations. My contacts also noted a shift in spending away from generic products towards more luxury items. My staff has discouraged me from describing these luxury items in any detail after my comments on Spanx at our last meeting [laughter], so I won't do that, but I will say that this shift towards these luxury items suggests a more secure, less cautious consumer.

The outlook is gloomier for state and local government spending. In California, total general fund spending has been cut by almost 20 percent over the past three years, and further cuts are on the way as the state struggles to balance revenues and spending. Among other effects, these cuts have squeezed public resources directed to nonprofit organizations. Our contacts in these organizations have stated that this is leading to widespread consolidations in an attempt to salvage some semblance of services.

Turning to the national economy, recent data have generally been quite favorable. Consumer spending and auto sales have picked up, business investment is rising, and exports are making a solid contribution to growth. A downside risk to the outlook is the housing market, which the Tealbook describes as "moribund." One definition of moribund is "at the point of death." That might overstate the situation a bit [laughter], but it is certainly hard to detect much of a pulse in construction. With 20 percent of current mortgages underwater and house prices still falling, there is no prospect of an imminent residential resurrection. Continued house price declines could also lead to additional defaults and foreclosures, putting further pressures on bank balance sheets and credit availability.

Still, the predominance of good news since our last meeting has led to a sizable upward revision to last quarter's real GDP growth. The greater momentum has also boosted our GDP growth forecast to 4 percent this year and 4½ percent next year. However, fast growth for a couple of years is not enough, as unemployment is projected to remain stubbornly high. Analysis by my staff that was detailed in the FRB San Francisco background paper described yesterday suggests that the bulk of the increase in unemployment reflects weak labor demand and not a rise in structural unemployment. In the special Systemwide survey on hiring plans, the number one factor restraining hiring was low expected sales growth. Currently we put the effective natural rate of unemployment somewhere around 6¼ percent, but almost all of the recent increase in the natural rate should be unwound over the next few years.

A key indication of the significant slack in labor and goods markets is the downward pressure on wages and prices. Importantly, the weak demand for labor is evident in last year's widely dispersed slowdown in wage growth. Going forward, the downward pressure on prices from slack is offset by anchored inflation expectations and higher commodity prices.

As noted in the Tealbook, higher commodity prices seem to be driven by greater demand and by supply shortfalls, not speculation. In particular, after examining high-frequency data, our staff found no evidence that commodity prices jumped right after our announcements of large-scale asset purchases and monetary accommodation that have taken place since early 2009. Of course, only a small portion of the surge in commodity prices will pass through to core inflation. On balance, we expect core PCE inflation to remain at or a bit less than 1 percent both this year and next.

Before wrapping up, let me say that, in light of yesterday's discussion on structural unemployment, I'm now seeing the ongoing search process for a new 12th District president in a different light. [Laughter] For example, I'm no longer taking it so personally when people use the terms "mismatch" and the "12th District president situation" in the same sentence. In addition, I realize I need to have a chat with our search committee about the concept of low recruiting intensity. [Laughter] In any case, I'm hoping, as I'm sure you are, that if the ongoing nature of the opening is the result of a structural problem, it's the type that will dissipate soon.

CHAIRMAN BERNANKE. And maybe the wage will move over time. [Laughter] President Lacker.

MR. LACKER. Thank you very much, Mr. Chairman. A hard act to follow, so I'll stick to business. The data we've seen over the last couple of months is notably better than we were expecting just two or three months ago. The cumulative effect for me is much more confidence that the recovery is firmly in place and has picked up speed.

What we've seen in the Fifth District is consistent with this assessment. I'll start with the household sector. Nothing is more central to the recovery than the revival of consumer spending, and, in our surveys, the diffusion index for retail sales has been notably weak throughout most of the recovery and, as recently as November, stood at minus 16. In December it swung to plus 25, and the reading for January improved further to plus 33. Our broader service sector index has shown improvement similar to that of the ISM nonmanufacturing index at the national level. It rose to plus 21 in December, and that's the highest level in several years. It came to plus 12 in January, which is still a positive reading. I won't recite more of these District numbers, but, like the other regional diffusion indexes, our manufacturing measure was strongly positive for December and January—I think we've heard similar reports from Philadelphia and other Districts.

Our anecdotal reports this month also support a more confident view about the recovery. One noticeable swing in recent months is current reports from some of our banking contacts, who are reporting improvements in loan quality and the emergence of new loan activity. More broadly, outside of banking, we've also heard noticeably more positive reports and fewer negative reports than in the recent past.

Turning to the national economy, I agree with the Tealbook that we've entered the new year carrying more pace than seemed likely a few months ago. Several developments stand out. Consumer spending growth has picked up and now looks more solid than it once did. Labor markets are improving. Private employment continues to expand at a somewhat increasing pace. Initial unemployment claims continue to fall. The NFIB hiring plans index surged, and real disposable income is on an upswing. In addition, I think investment in nonresidential structures has not been quite as weak as some of us had anticipated, and that suggests we may have reached a bottom in commercial construction now.

All in all, I think a more bullish view of the outlook is warranted. In my projections, I've written down 3.9 percent for GDP growth for 2011—spurious precision, perhaps, but close to the Tealbook's forecast. Obviously one wants to be careful about reacting to the data in marking up one's outlook, but I think the improvement in the outlook is unmistakable.

The inflation outlook is also firmer now, I think, than it was several months ago. The Tealbook estimates that PCE inflation was 2.3 percent over the three months ending in December. Measures of near-term inflation expectations, both TIPS-based and survey-based, have moved up by roughly a percentage point since the summer—a fairly substantial move. The surge in energy and commodity prices obviously has played a role, but our experience with such surges in the past several years suggest that they'll show up soon in core inflation as well. I also think there's little doubt that deflation risks are notably reduced now and fairly minimal.

In sum, I think this recovery is looking less in need of monetary stimulus than it did a few months ago. Personally, I seriously doubt that our asset purchases have made a material contribution to the improvement in the outlook over the last few months. If we continue to get economic reports consistent with stronger growth—two reasonably healthy payroll employment reports, for example—then I think at the March meeting we're seriously going to want to consider scaling down our purchase program. Thank you very much, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. The Eighth District economy continues to improve at a moderate pace. Many businesses report stronger revenue, better profitability, and improved household consumption. Holiday retail sales were quite robust. Some businesses plan to boost capital expenditures during 2011, and there are a few tentative indications that firms in the District may be more inclined to hire new workers this year. This is the first time that I have heard even tentative indications of that.

Residential real estate in the District remains weak. Some parts of the District, in fact, seemed to experience renewed deterioration in conditions during the second half of 2010. Agribusiness in the District continues to be characterized by optimism for 2011, driven in part by higher prices for many of its products. There seems to be increasing anecdotal evidence of land prices accelerating beyond what seems to be supported by fundamentals. That's something I'll be keeping an eye on in 2011.

Large businesses headquartered in the District continue to report brisk business and remain optimistic for this year. Booming Asia continues to be an outsized factor for many of these firms, but most are also reporting good results for domestic business. Europe, so far, remains a steady source of business for these firms. I did not detect problems in the EU, at this point, from the perspective of these businesses.

Nationally, prospects for the economy seem to have improved rather markedly relative to last summer. I attribute part of the improvement to this Committee's asset purchase program. I think that this program did four things. It put downward pressure on short-term real yields, it put upward pressure on expected inflation as measured by market-based TIPS, it contributed to a rally in equity markets, and it contributed to downward pressure on the trade-weighted value of the dollar. In my view, these are classic signs of monetary policy easing. They are exactly what you'd expect to observe had we been able to lower the funds rate substantially in reaction to weaker signs from the economy. So, to me, this recent experience shows that the asset purchase policy can be used effectively to substitute for ordinary monetary policy, although, whether the Committee wishes to use this tool is, of course, dependent on the judgment of the members.

I would also say that the asset purchase program has been very successful in getting the focus off of the federal funds rate and how long it will be at zero and moving the focus on to balance sheet policy instead. So I think the signaling aspect has been extremely valuable to the Committee. It is, of course, too early to make a complete assessment of the program. In particular, most measures of actual core inflation from one year ago remain below 1 percent. I would like these to move higher before I feel completely comfortable that the downside risk on inflation has been mitigated effectively, but we will have to see how these measures evolve during 2011. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Fisher.

MR. FISHER. Mr. Chairman, I'm going to talk purely about the economy as seen through my own District and about my conversations with various CEOs. Before I do, I want to thank President Hoenig for pointing out the need to contemplate unintended consequences as well as intended consequences. I would say that is true not only when we enter into a program, but, as President Plosser commented, it is true also when we exit. And I want to come back to try to pay a compliment to the New York Desk for the work that they did on the various exit scenarios, and I hope they will not interrupt me this time, because I think we need to contemplate what the cost of exit is and how we exit.

Now I will turn to the economy and, in particular, to developments in my District, because it has been an engine of economic growth and employment growth. We have looked closely at the data, and the Texas share of U.S. employment growth for last year amounted to 19 percent of total nonagricultural growth—40 percent goods production and 60 percent services. So Texas is not quite North and South Dakota, but I think it is not an unimportant indicator of where we may be going. Let me just give you some summary statistics. Our payroll employment rose at a 3 percent rate in December. Our Texas manufacturing outlook survey is indicating expectations of capital expenditures and future business activity at a level that we have not seen for over three years. Construction employment rose at a 3.6 annual rate. And we are beginning to hear that convenience stores are reporting increasing traffic, which is usually an indication of a pickup in construction activity in terms of those workers' consumption. Service sector employment grew at a 2.3 percent annual rate in November; we are still looking at the December rate. The key number that I wanted to mention is temporary employment, which rose at a 19½ percent annual rate—Charlie, I think you mentioned Manpower. Our manufacturing outlook survey had a very interesting statistic. We asked about the hiring intention six months out. The ratio of firms expecting to hire versus those expecting to lay workers off is now at 19 to 1—not insignificant. So our surveys raise the prospect that this recovery might actually generate more jobs than we had expected.

There are two offsets to what is happening in our District, but it is happening in all Districts. One is that the state does have a fiscal shortfall. In the typical Texas manner, I doubt it will be met by tax increases, but, rather, it will be met by continued severe cuts in social services. In the state's budget, 75 percent goes to education and health, and, unfortunately, I think the cuts are going to come out of the education side as well as the health side. The second offset is in our Texas manufacturing survey, where the proportion of firms that expect to be able to pass on higher prices by midyear rose to 37.2 percent, the highest level in almost three years. And the prices received index is now running at the highest level in three years. So that's my District.

I'd like to turn to what I have gleaned from the roughly 30 CEOs I speak with. You're the only one that has that list, Mr. Chairman, and I will summarize that quickly. I think it's fair to say that the view of that group collectively is that fears of a double-dip recession have faded into the rearview mirror. Confidence is higher in the direction of final demand moving forward. The best summary quote is, "We are moving forward at 3 knots, not at 20, but it's definitely forward motion." The same holds true even among small businesses, according to my contact at AT&T; he said the company is seeing the highest small business demand for connectivity and for services that they have seen in the last three years. By the way, according to the casual dining industry—for example, Chili's and the middle brands—despite GE's withdrawal from the financing business, franchises are able to raise capital now, which is something they haven't seen for three years. Improvements in final demand seem to be more likely, liquidity is abundant, and many regard the prospects on the tax and regulatory front as potentially better—I stress "potentially," because these are hard-headed people, who are hopeful, but wary. I'm finding more that are saying they are contemplating expanded domestic cap-ex, and some are at least beginning to budget for domestic payroll expansion.

On the inflationary front, those with rising input costs are planning price increases. Many have the ability to pass through increases automatically, for example, the rails and others. But to return to a point raised earlier, they are uncertain about their pricing power. And I have tried to drill down with my interlocutors specifically on this issue. Generally speaking, those in the bottom two quartiles in the retailing sector appear to be budgeting for 8 percent increases on the apparel side, particularly as we get to back-to-school season, because of the higher prices of inputs such as cotton. And Mr. Tarullo will be very happy to know that that has also led to higher prices of polyester, because polyester is a substitute for cotton. I noticed him nodding off during my statement—[laughter]—so I just wanted to make sure he was paying attention. But when you really do press, they're still uncertain as to how much, given the weak demand we have, they'll be able to pass through. Nonetheless, the intention is to pass through whatever they can get away with. The business community has worked very hard to preserve the margins, which have become extremely taut, and they are quite worried about it.

So, in summary, Mr. Chairman, I would say there is more than enough liquidity in the system. Businesses and financial intermediaries are flush with funds. Money is burning a hole in the pockets of many, sensing that fiscal and regulatory policy might become friendlier. Businesses are beginning to budget for cap-ex, including, hopefully, more in the United States. And some additions to domestic payrolls may occur, although those additions and investments are still earmarked to drive productivity and, therefore, are likely to have less of an impact on unemployment than is desirable. The outlook, according to the CEOs I surveyed across the country, is the most upbeat it has been in two years. But inflation is a concern. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Mr. Chairman. Well, speaking for myself, I have a very inelastic demand for cotton, and I don't see any leisure suits in my future, regardless of what happens to cotton prices. [Laughter]

I think we all agree that the economy has regained some forward momentum. It is now on more solid footing, and the prospects for a virtuous circle have improved. In other words, faster final demand growth stimulates more rapid employment and income gains, which, in turn, provides further support for household and business spending.

At the same time, I wouldn't get too excited about all of this. The pace of economic growth is still pretty tepid relative to the depth and duration of the recession that preceded it. And while the labor market is improving, the rate of private-sector job creation has not yet been sufficient to push down the unemployment rate in a sustained manner. Even if we were to start to see more sizable employment gains, I think we should be inclined to let that run for a while, given the amount of slack that currently exists in the labor market. This is going to necessitate some patience on our part. I think policy should remain accommodative long after economic growth picks up to a more robust pace.

In terms of the debate about the level of NAIRU, I thought the staff papers were excellent, and what I took away from it is that NAIRU probably is somewhat higher than it was before, due to the extended unemployment compensation benefits and increased mismatch. But I think it's important to stress that the effect of the extended unemployment compensation benefits is almost certainly going to be temporary rather than permanent, so I'm not sure that it's that relevant over the longer term, and there is, as the papers point out, a cyclical component to mismatch. More importantly, we probably shouldn't spend too much effort trying to fine-tune our estimates of NAIRU today. Whatever it is today, it's likely far below the actual unemployment rate. Thus, in my view, the mostly modest differences that we have in our point estimates shouldn't have substantial implications for monetary policy currently. Moreover, it's important to emphasize that we will be able to fine-tune these estimates once we see how compensation and unit labor costs respond to faster economic growth and to the drop in the unemployment rate, which, I hope, will take place this year.

On the inflation side, I think the big story in the news is the continuing rise in commodity prices, which is lifting headline inflation above core inflation. However, I think it's important not to overreact to this development either. The pass-through of commodity price pressures into core inflation has typically been very limited in the United States, and headline inflation is still below nearly all participants' estimates of the inflation rate consistent with the FOMC's dual mandate. Moreover, underlying pressures outside of commodities are still very subdued. I would note that unit labor costs are still declining on a year-over-year basis, and profit margins are elevated relative to historical norms at this stage of the business cycle.

One area that I do think we have to keep our eye on is inflation expectations. Five-year, five-year forward TIPS measures are at acceptable levels, and survey measures still don't show any meaningful increase in longer-term inflation expectations. But if we did get a significant increase from here, that would be a concern. To my mind, at this stage of the business cycle, and given the amount of excess slack in the economy, it would be a rise in inflation expectations that would be the most likely way that we'd get a sustained upturn in actual inflation.

Therefore, I think we have to be mindful of our own role in influencing inflation expectations through how and what we communicate to market participants. I think we need to emphasize our ability to exit smoothly from our enlarged balance sheet when the time comes, even if that time lies far off into the future. And we have to emphasize our commitment to do so. I think we need to be very clear in our communications about why we're keeping monetary conditions very accommodative—that is, because we're so far away from our dual mandate. But we also need to emphasize that our keeping conditions accommodative today does not compromise our commitment to keep inflation contained over the longer term.

In terms of financial stability risks to the outlook, let me just discuss two areas briefly—Europe, and state and local government finances. With respect to Europe, I believe that the "muddle through" course continues to remain the most likely outcome. The leadership of the core European countries is fully committed to the euro. This means that, if expansion in the capacity of the EFSF is required, it eventually will be forthcoming. But the road is likely to be bumpy, because this is a very complex bargaining game that makes it difficult politically for the necessary aid to be extended before it's absolutely needed. Right now, we seem to be in a sort of a peculiar place. Market participants expect the resources will be supplied to protect Spain, but, because of these expectations, market conditions are generally stable, and this means that the policymakers aren't under much pressure to provide this backing immediately.

In terms of state and local government finances, the rise in municipal bond yields has sparked much discussion of credit risk. However, I think the increase in yields is at least as much due to a shift in the demand–supply balance as it is to a fundamental deterioration in debt funding capacity. The demand from the household sector has cooled as poor mutual fund performance had led to outflows from municipal bond funds. In response, yields have had to back up sufficiently to attract so-called crossover investors, such as insurance companies, taxable income funds, and hedge funds. And although many states have large deficit holes to fill this year, the aggregate amount of the shortfall is actually not that big. If you sum it across all of the states, it looks to be about roughly 1 percent of GDP. The much bigger problem for states and localities is really the longer-term unfunded commitments for pension and health care retirement benefits. This may ultimately lead to a hard landing, but I don't see that happening this year.

Finally, the debt ceiling could become an issue this spring. I know this usually turns out to be just theater, but it does strike me that there's more capacity for mischief here than usual. Apparently, some members of the Congress are discussing how payments can be prioritized, so that the impact of a binding debt ceiling would constrain discretionary spending but would allow payment on Treasury debt to continue. If we really go down that path, it would imply that the debt ceiling could be pretty messy. Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Yellen.

MS. YELLEN. Thank you, Mr. Chairman. I, too, am encouraged by recent news suggesting that, outside of housing and nonresidential construction—sectors which remain mired in gloom—private spending and production gained some momentum toward the end of last year. The improved tone of the data is mirrored in the anecdotal reports I hear. Businesses seem slightly more optimistic about future sales and a bit more willing to hire and invest. The more positive tone of the data improves my confidence that the recovery is on firmer footing and will gradually pick up steam going forward. My modal forecast has changed only marginally in response to incoming data, but my assessment of the risks to the outlook for economic growth and inflation has become more balanced.

The forecast I prepared for today's meeting is very close to that in Tealbook and in my November projection. I raised my forecast of economic growth in 2011 by a few tenths of a percent, reflecting upside surprises in consumer and investment spending and the enactment of the fiscal package. But these positives were offset by developments since November, suggesting a deeper and more persistent housing downturn and steeper declines in house prices than I previously anticipated. The large overhang of existing homes for sale, the bulging foreclosure pipeline, the inability of homeowners with negative equity to trade up, and continuing tight lending standards are depressing house prices throughout the country. I expect the resulting negative wealth effects to take a toll on consumption.

For 2012, I lowered my growth forecast a few tenths to reflect the shift from this year to next year in the onset of fiscal drag. All in all, I now anticipate that, by the end of 2013, the level of real GDP will be a few tenths higher and unemployment a tenth or so lower than my November forecast. The essential contours of my forecast are unchanged. I envision a recovery that will strengthen but proceed slowly by postwar standards. As a consequence, unemployment will decline only very gradually, remaining around 7 percent at the end of 2013.

Turning to inflation, I have been surprised by the sharp upward movement in commodity prices, but data on core prices, compensation, and unit labor costs have been consistent with my previous forecast. And I continue to project that inflation will remain notably below the 2 percent level that I consider consistent with our dual mandate and will rise only minimally over the forecast period. A key issue with which I grappled during this round was how much to revise up my forecast of consumer spending in response to stronger incoming data. I ultimately decided that the staff's decision to revise up the level of consumer spending, but not the growth rate beyond mid-2011, is a sensible and balanced response. It seems dangerous to overblow the significance of the surprise when it is out of line with the fundamentals, particularly changes in employment, wages, and wealth. As David discussed in his presentation yesterday, these factors have had a remarkably good track record in explaining fluctuations in consumer spending and the personal saving rate since the onset of the crisis.

Of course, perceptions concerning current and future labor market conditions and income, and other factors, like access to credit, also influence consumption, and the staff tried to capture these influences with measures of sentiment. Yesterday's jump in confidence in the Conference Board survey suggests some improvement, but other surveys thus far reveal no significant or sustained rebound, even though most measures of sentiment are off their recessionary lows. Moreover, as David noted, the staff forecast assumes that sentiment will improve going forward, and the Tealbook growth forecast stands well above the Blue Chip consensus and near the top of our own central tendency.

On the labor market, in spite of December's drop in the unemployment rate, the number of new jobs in recent months has fallen short of the number needed just to accommodate the growing population. The decline in labor force participation, very modest gains in wages and compensation, and continuing perceptions in surveys that jobs are exceptionally difficult to obtain, all suggest that the labor market remains quite weak. I interpret the quit rate—the fraction of employed workers who voluntarily resign their jobs to search, exit the labor force, or take another job immediately—as a good measure of fear and perceived opportunity. Papers prepared and circulated for yesterday's discussion show that the quit rate is exceptionally depressed. The quit rate is now above the lows reached in the depth of the recession, but I take the very modest increase as a signal that improvement in the labor market is, thus far, quite modest.

The most significant change in my forecast versus November pertains to my assessment of the balance of risks. In November, I considered the risk to both economic growth and inflation as weighted to the downside, and I now consider them balanced. On the downside, I am particularly concerned about spillovers to spending and financial markets from further house prices declines and consider the risks well illustrated by the two alternative simulations in Tealbook. And, of course, spillovers to financial markets from European sovereign debt developments are a continuing source of downside risk. That said, I see more upside risk now that the recovery will be stronger than my modal forecast. For example, auto sales were quite strong during the fourth quarter, and this could foreshadow more robust spending due to pent-up demand for durables than is incorporated in the Tealbook baseline. I was struck that that baseline envisions declining vehicle stocks per capita over the entire forecast period.

With respect to inflation, like market participants, I am less concerned about deflationary risk than in November. Spikes in commodity prices create upside risks, but I agree with Tealbook's assessment that any pass-through to core inflation is apt to be quite modest. And I read the anecdotal reports as suggesting that firms still have little or no pricing power.

CHAIRMAN BERNANKE. Thank you. Governor Warsh.

MR. WARSH. Thank you, Mr. Chairman. Like many of you, I am encouraged not only by the improved economic data but also by the new tone in Washington. I'm sure many of you saw that last night the Congress had people sitting cross-party, cross-philosophy, and, in doing so, I think they're following our lead. After all, we've got Narayana and Charlie sitting next to each other, and Janet and me sitting next to each other. As for Jeff, we've got him surrounded. [Laughter] I'm not sure whether that new tone of civility is going to carry through the balance of our discussion today.

In preparing my remarks, I had at first entitled them, “No Nation Is an Island.” But then I realized that some nations actually are islands [laughter], so I put a new title to my remarks: “The U.S. Is Not an Island.” Let me talk about the U.S. economy first as if it were an island, because my sense is that developments in the United States would be considered quite encouraging in that case. We look a bit stronger and a bit more settled from the perspective of markets and the economy and politics. But beyond the island, the rest of the world looks decidedly less settled, decidedly less strong. Focusing first on the United States, the improvements on the real side of the economy appear to be real. I take a little less momentum from recent data in the fourth quarter into my 2011 forecast, in part because of the arithmetic of the GDP forecast that staff rightly took us through regarding net exports and so on. Still, there are encouraging signs that the Tealbook forecasts going back a couple of sessions seem to be more on point than off. Having said that, I’m still a bit more cautious than they are. Yet, I’m impressed by tax revenues that are flowing into the federal government and into states and municipalities, and I expect the deleveraging headwind to subside materially in 2011.

I will spend most of my remarks, though, on the risks to this improving modal forecast, given the current global policy conjuncture. Four risks come to mind. The first is geopolitics. I see an incredibly unhealthy brew of divergent recoveries across the world, increases in food and commodity prices, and, frankly, power vacuums in certain countries and certain regions. Second, as I will discuss in more detail, inflation—it’s getting hard and harder, in my view, to deny inflation risks, if not real inflation problems, among many of our trading partners, and that’s likely to lessen the flexibility that monetary policy has, at least in the eyes of many market participants. Third, as I will also discuss in more detail, is sovereign funding costs. The costs of capital for the countries that have been better prepared, better insulated, such as the United

States, Germany, and France, might well be the story of 2011. Fourth, as many people, including Vice Chairman Dudley, described, is the European crisis. Before I get into those risks, I have to note the improvements in financial markets, which continue to be highly supportive of the real economy. Now, if any of those trends were upset, I think the consequences for the real economy would be significant.

If you view the Treasury yield curve as a rough and ready indicator for the state of the domestic, or even the global, economy, you would have to note a few remarkable things. One is the run-up in yields and the steepness of the curve, which is probably mostly about good economic developments. The spread between the 30-year bond and the 2-year note has reached its widest level in history in the intermeeting period, and that has certainly gotten my attention. At 398 basis points, that spread has surpassed the previous peak of February 2010 and has put peaks from earlier recoveries in the rearview mirror. Now, at some level, this could mean a robust recovery. It could mean that the markets are gaining confidence, that the risks of deflation and double dip recessions are de minimis, and that's a view I share.

Why do I worry? Because it also could be something else. It's still hard for me to divine what the Treasury curve is telling us. If term premiums were to move beyond the current levels, which, according to memos from Nellie Liang and the group, appear normal, it could turn out that sovereign funding costs for the advanced foreign economies like the United States move up in 2011, not just as a sign of improved economic fundamentals. What else could cause the spreads to widen? Inflation risk premiums could. If they were to move up materially, output gaps notwithstanding, Treasury curve steepening could make the recovery harder to pull off.

Let me turn to some of those global risks. I would say, in sum, that the upside inflation risks in the medium term are materially greater than the risks around GDP. Inflation risks are spreading from the smaller emerging markets to the BRICs and the advanced foreign economies, and the question is: Will they spread to us? Start some months ago, even quarters ago, with the situation in Vietnam and Indonesia. Then, take the narrative through increases in inflation risks in Brazil, Russia, India, China, and, more recently, South Korea. Think about the policy conundrums in the United Kingdom. Think about policy risks for the European Central Bank. You see many policy authorities taking ad hoc measures, in addition to policy rate changes, to try to contain this surge in inflation. Some are successful and some are likely to have far less positive consequences. I think markets perceive that policymakers are losing the flexibility to respond should these inflation risks become more significant.

None of the cases I've mentioned are perfect analogies to the situation in the United States, but choosing a country that actually is an island—the United Kingdom—might be the best example we can find. In spite of large spare capacity, austerity in fiscal projections, and a series of one-off factors that are no doubt driving headline inflation, inflation risks have many worried. Governor King gave a strident and, I daresay, strong defense of the United Kingdom's monetary policy yesterday, but he was forced to acknowledge that, over the course of the last 46 months, inflation has been above the Bank of England's target for 41 of those months. At some point, he seemed to acknowledge that that could likely move up expectations, and he would be prepared to take action. He noted upside risks to inflation, and I think many in markets are taking that speech to suggest that he might need to do some modest monetary tightening, even though that involves huge communication challenges and could do some harm to the growth trajectory in the United Kingdom.

I say this not because they're in a situation that's impossible. I say this not because the analogy between them and us is perfect. But if you think about the good, healthy debates at the

Bank of England going back some months about whether they should engage in their own version of QE2 and how divided they were, I suspect that that option is, at least given the current set of facts, off the table. I think that should remind us that we need to be cautious, that we need to be watching the data, and that the situation in front of us, even if the economy improves with the vigor that the Tealbook suggests, could be one that is quite a difficult challenge for policymakers.

Finally, a risk related to continental Europe. One challenge that has been touched on both by staff and many of you is the refinancings that are necessary in Europe over the course of 2011. They have $1.3 trillion that must be rolled over in the next 12 months. Most of that is front-loaded, and most of that is funded in the short term. Market commentators seem to have taken great comfort from the fact that many of those countries that need to roll over much of their funding have been "successful" in doing so. But if you look closely at the successes in funding by some of the peripheral countries, you might take far less comfort. First, many of the buyers of the securities are many of the same institutions that give us concern. Second, many of those that are buying the debt are doing so based on the implicit guarantee that the stronger countries would be there to bail them out if anything went wrong. A couple of you noted that, to the extent that the U.S. economy only slowly but surely improves, we could see the European problems find their way into our economy through financial markets. I think that is the most likely channel for harm to the United States.

Another takeaway for me from the European situation is that the core of Europe matters most in 2011, that is, the situation in France and Germany. I think the reason that markets were so nervous in the spring about problems in the periphery is that they weren't sure whether Germany was going to step up and foot the bill. Markets have now become convinced that

Germany has rededicated itself to the euro, that Germany has decided against some of the screams within the political classes, and that it will defend the euro, so that now markets are less nervous about problems in the periphery. I think that will hold true unless German sovereign rates move away from them not because of improved economics, but because the contingent liabilities of the periphery have to be paid for by someone, and markets demand that out of the long end of the German yield curve. If that should occur, I would expect that the German political leadership would have to revisit this cause. I can't predict that it will occur, but, if it does, I could see a scenario where sovereign rates at the long end move up pretty significantly in most countries around the world.

In addition, it's not just core countries that will matter in 2011, but also core banks. I think Eric made proper reference to the "strong banks" in Spain as one example. The CDS spreads for a couple of the strong banks have moved. Regulators still seem to believe that they are going to be just fine, that the bank restructurings that are necessary in Spain and in Germany are not among the core institutions. But if that assumption turns out to be faulty, if it turns out that these institutions do not have either the quality or the quantity of capital that they purport to have, I would say all bets are off and the situation in Europe could become very significant.

With that preoccupation with the downside risks, I will end where I began by saying the data have been more comforting for us in the U.S., but our gaze will probably have to look over a couple of oceans to decide whether our 2011 projections come true as many of us hope. Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Duke.

MS. DUKE. Thank you, Mr. Chairman. Credit quality continues to improve, with some banks showing quite dramatic improvement in the fourth quarter and most banks expecting continued improvement next year. As credit metrics in the outlook improve, however, some bankers are already seeing the first signs of conflict between their accountants and their regulators over the proper level for reserves. Running through major loan types, C&I lending, with the exception of small business, was never a major credit problem in this cycle. Auto has returned to normal, with loans available across the credit spectrum. Credit card charge-off rates are declining, in some cases sharply, and are expected to return to normal levels this year. Residential mortgage lending is the area of greatest concern. Entry into delinquency brackets has slowed, but exit from delinquency has also slowed, with problems in foreclosure procedures across all major servicers. In commercial real estate, the outlook is, oddly, brighter. Banks are beginning to see reductions in the dollar level of problem loans. When loans are restructured or extended, it takes 6 to 12 months of demonstrated performance under restructured terms before the loans can be upgraded, and some early restructures are now passing this threshold. In addition, banks are aggressively selling troubled real estate assets and are finding ready buyers at or above their marks. Fundamentals such as vacancies and average rents range from stable to improving. Investors have lowered cap rates in line with interest rates, and more sales transactions are occurring. Bankers did caution, however, that continued low interest rates hold the key to the outlook for commercial real estate. Risks to the outlook for credit improvement more generally are declining house prices, unemployment, and interest rates.

Loan demand is still quite weak. Competition continues to heat up for C&I loans and is gradually moving down from large commercial lending well into middle-market lending, and a few banks reported seeing a brief but noticeable pickup in small business application flow in December, but no one was ready to call it a trend. In our aggregate bank data, we have seen growth in C&I loans and in residential mortgages. Banks are becoming increasingly focused on the need to generate assets. The C&I growth is due to some increased demand primarily for transaction needs, such as the opportunity to buy something—equipment or mineral rights, et cetera—at a bargain price, or to fund mergers and acquisitions. Bankers have yet to see demand prompted by business expansion, and, while they're still adding to approved credit lines, usage of existing lines remains at historical lows.

Mortgages held at banks are increasing, but overall mortgage debt is still declining. Banks are choosing to retain portions of GSE-eligible and non-eligible originations to offset declining portfolios and weak demand in other areas. Similarly, credit card securitizations are extremely low, as banks elect to keep the production on their balance sheets. Finally, bankers caution that they still have significant loan portfolios in liquidation or runoff mode that will mask new production for some time. All of this leads me to believe that loan supply is not meaningfully constrained by capital or liquidity but rather by assessments of creditworthiness and prospects for recovery. Meanwhile demand from creditworthy borrowers continues to be weak.

The Small Business Lending Fund initiative that has been passed by the Congress and launched by Treasury allows Treasury to purchase preferred stock from banks with total assets less than $10 billion and is designed to incent them to increase small business lending. The rate on the stock drops from 5 percent to 1 percent for banks that increase lending by 10 percent within two years. Conversely, the rate increases to 7 percent for banks that do not increase lending, and the rate goes to 9 percent after four and a half years for all banks. For healthy small banks that already have TARP capital under CPP, it would make sense to exchange that for capital under this program with the potential for lower rates and the elimination of compensation restrictions. For healthy banks without TARP, it could serve as bridge capital until more permanent capital sources become available or in anticipation of the need to replace trust preferred as a source. Less healthy banks that are in need of capital due to existing losses are not likely to be approved for the program. As of January 10, Treasury reported 71 applications, of which 38 were non-TARP and 33 were TARP banks, and we're working with the other agencies on approval processes. However, the President doesn't need to look very far for needless regulatory burden. Under the legislation, for banks to receive credit for small business loans made, every small business borrower must certify that he or she is not a sex offender and must update that certification annually that he or she has not become a sex offender in the previous year.

Finally, banks' earnings are quite threatened by the loss of revenue from debit card interchange fees. The industry had drifted into a model where checking account profitability was largely generated by overdraft fees and debit interchange income. With both of these sources of revenue sharply curtailed, most banks are looking at restoring checking account fees and charges for debit cards. In addition, many are rethinking branch networks and looking for ways to lower deposit delivery costs. None of these measures is likely to offset the revenue loss. Look for a significant hit to profitability upon implementation, and only slow recovery as new fees are implemented. Also looming is the threat of credit card interchange restrictions. With interest margins reduced by lower levels of earning assets and stronger competition for the assets that are available, as well as severe regulatory hits to noninterest income, banks are likely to struggle for core operating income. The struggles may be masked for a time by improving credit costs and reserve releases.

Turning now to the economic forecast, I subscribe to the staff forecast as described in the Tealbook and agree that downside risk is less than the last time we met. I would offer two nuances based on my conversations about credit. First, I fear that the outlook for real estate investment, even at the revised lower levels, might not materialize. As I've said in the past, this concerns me because this investment is a much more significant fraction of the forecast for improvement of GDP growth than it is of the overall economy. In addition, while employment in construction was less than 7 percent of overall employment at the peak, through December 2010, net job losses in the construction industry are nearly 30 percent of total jobs lost.

Second, as credit availability returns, there appears to be a bifurcation between the haves and the have-nots. Large companies have credit; small companies have not. Companies in the health-care or energy sector have credit; companies in businesses related to real estate have not. Consumers with high credit scores have multiple credit card solicitations; subprime borrowers are likely to be closed out for some time. Homeowners or potential homebuyers with significant equity or down payments can get mortgages for purchase or refinance, while others cannot access the best rates even with good income and credit scores. We could be surprised by continued strength in consumer spending if its recent improvement turns out to be driven by greater confidence among the haves, because that group may not be as credit-constrained as the averages would suggest. While I'm seriously concerned about the ugly social consequences of such a bifurcation, I think it might provide some reason for optimism about growth in consumer spending. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. With respect to the economy as a whole, I think what we've seen is characteristic of the kind of recovery that occurs after major financial shocks, which is to say it has been a gradual, somewhat jagged path of recovery. Therefore, inferring from what many of you have said, the interesting question for 2011 is whether we're going to break out of that pattern of some ups and downs and instead get a stronger, more self-reinforcing recovery dynamic, or whether the continued drag from the housing market and more hope than realization of increased employment gains will once again pull us back down a bit and return us to a jagged pattern of recovery. On those latter points, I would agree with what many have said already. I just want to add a point on the housing market. I think the problems with foreclosure documentation now look to be on the bad side of initial estimates of the delays and costs that will result. Quite apart from irregularities at individual servicers, the MERS problems run very deep indeed and are almost surely going to result in some delays and quite a bit higher costs than I think many expected.

With respect to the recoveries from financial crises, obviously this is a time when the economy is more susceptible to shocks than usual. I think Bill covered the shocks quite well, so I would just associate myself with his comments.

I'll make a couple of remarks on the euro-zone problems. I agree with those who have said the biggest short-term risk comes from the euro zone. It's relatively calm right now, both because of the rumors of more European-level initiatives and because of the ECB purchases of sovereign debt ahead of auctions. Europe is not using this period of calm to get ahead of the problem, which they would probably be best advised to do by building a credible firewall in Spain through strengthening the European backstops for sovereign debt, accelerating the programs of disclosure for all banks, and presenting a credible plan for recapitalization of at least the cajas.

However, Spain is moving ahead unilaterally on a variety of structural reform fronts. They also seem willing to address bank transparency and cajas recap issues, but I sense that they're somewhat reluctant to go full speed ahead when European policies are proceeding at such a stately pace, for example, on stress tests at financial institutions generally. I think at this point most, if not all, of the important policymakers throughout the euro zone believe that proactive steps are indicated, and they're being held back by significant domestic political problems in both the stressed and the core countries. As all of you know, Ireland's government is endangered as Irish citizens see what the failure to regulate their banks is going to cost them. The German ruling party has faced coalition problems as German citizens resist the idea that they should pay for what they see as fiscal irresponsibility in the periphery. Portugal doesn't want a program at all, notwithstanding the fact that officials in the core countries are trying to push it upon them. So the mantra that Europe has the financial and technical resources to contain the problems remains true, but I think there is some continued risk that, if it were to spread to Spain, a reactive ad hoc response might not be enough owing both to the size of sovereign debt and to some of the unknowns around Spanish bank liabilities.

I want to turn now to the credit environment here in the United States or, more accurately, to the two credit environments that I think we currently have: one where credit is at least perceived by many to be in unreasonably short supply, notwithstanding the positive developments in the economy as a whole, and another where we may—and I emphasize "may"—be seeing the early signs of some frothiness. With respect to the first environment in which small and medium-sized businesses operate in particular, it's clear that lending to such firms has been quite circumscribed, at least as judged by historical standards. We have all heard complaints from representatives of such businesses that they cannot get loans that they say could be used to expand their businesses and create new jobs. We have all also seen the surveys and analyses that suggest that the problem is, at its root, a lack of demand by these businesses based upon a lack of assurance about future demand. I suspect many around this table share my frustration at not being able to reach conclusions based principally on data rather than impressions, though. Again, I suspect that, like most of you, I'm inclined toward the lack of demand explanation.

But when, in the course of conversations with labor economists and in anticipation of the discussion we had yesterday, some of them explained the still slow pace of job creation in part by what they characterized as a credit squeeze on smaller businesses, I decided to try, at least, to find some other sources of data that might put the issue in some perspective. I looked at the BLS business employment dynamics data series, which breaks down job growth and destruction by size of firm to see how job creation in the present recovery compares to those following prior recessions. Unfortunately, the series doesn't go back to the major recessions of the early 1980s and mid-1970s, it's pretty badly lagged (by almost eight months), and it still doesn't give all of the information that would be useful. Other than that, it's actually a terrific data series. [Laughter] Given all the qualifications on how useful this inquiry would be, I looked at the shares of gross job creation by small, medium-sized, and large businesses in the recoveries from the mild recessions of the early years of both of the past two decades and compared them with the proportion of job creation in the early stages of the present recovery—this is gross job creation, not net. It's interesting that the shares of gross job creation by the smallest businesses—that is, those with 1 to 10 employees, which I assume are generally excluded from borrowing from banks—and by the largest businesses—those over 1,000, which we know to have had good and cheap access to credit for some time now—are both modestly but noticeably higher than their shares in the previous two recoveries. Therefore, the share of job creation by medium-sized businesses is several percentage points lower than in past recoveries. This observation is consistent with the story of an unusual credit squeeze on small and medium-sized businesses, though it hardly validates that story. And in truth, the biggest fact that jumps off the screen as one looks at this data series is how few total jobs are being created relative to any time in the last 20 years.

Switching now to the other environment, that in which credit is not only readily available but perhaps so abundant and cheap as to invite a kind of domestic variant on a carry trade, it's obvious how sustained low interest rate conditions can create such an environment. Tom has been talking about them for well over a year. But I, at least, have assumed to date that these risks are more likely once greater confidence in the likely trajectory of the economy has set in and, thus, certain asset classes are commanding more assurance about their future value trajectory. So until recently, I hadn't seen much in either the financial stability memos or elsewhere to raise concerns, but now I think there are at least a few potential warning signs. The financial stability memo package that Nellie summarized yesterday identifies the leveraged loan market and farmland prices as worth watching—because Tom spent a good deal of time on farmland, I'm not going to say anything more about it. The leveraged loan market, with its duration advantage for investors over junk bonds, seems to be growing rapidly. I notice that just this month Prudential, PIMCO, and Nuveen have all started leveraged loan funds. Of course, the loans themselves are still originated with banks. So we can take advantage of our strengthened links between financial stability analysis and supervision to provide CPC teams and Board staff with some background and some things to watch for. A similar exercise is clearly going to be useful for the banks that provide lending for farmland acquisition.

While our supervisory function provides a good window onto developments in these specific markets—as well as potentially serving as a tool for affecting those forms of credit, if necessary—there may also be some new areas of leverage or financial engineering that don't so closely involve our supervised institutions. One interesting example of this is innovations in ETFs, including leveraged and synthetic funds. Bill Dudley and I were at an FSB meeting on assessing vulnerabilities a couple of weeks ago, and there was a fairly interesting and extended discussion of the changes in the ETF industry. Leveraged and synthetic funds are still a pretty small part of the ETF universe, but they're growing rapidly. It's noteworthy, to me at least, that, of the five big U.S. players in this universe, only one is a bank holding company, and it is clearly grounded in plain vanilla ETFs and a classic asset management function, so that innovations are taking place outside the regulated sector. We can inquire into whether any leverage is being provided by banks, of course, but it may be that other channels of monitoring, such as through the SEC, are needed. This, of course, raises the question of what tools would be available were we to observe developments that we think are troublesome in any of those areas. I think we can all agree that more-targeted tools are far preferable to monetary policy as a means of controlling any emerging asset bubbles, particularly when credit is still constrained in key parts of the economy. Thus, as I suggested a moment ago, this question of tools for use outside regulated institutions could become quite significant over time. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Raskin.

MS. RASKIN. Thank you, Mr. Chairman. The economy has entered 2011 with more momentum. We're seeing promising upticks in business investment in equipment and software, and potentially sustainable increases in industrial production. Appearing positive but not yet definitively propelling are improvements in auto sales and net exports, which are also moving demand. Conditions in the labor market have improved modestly, but considerable slack remains. Despite these upward positive trends, the housing market, in particular, continues to be troubled and is exerting downward pressure on economic growth. The housing market shows no signs of emerging from the significant overhang of real estate that is in foreclosure or entering the foreclosure process.

I continue to be troubled by the failure of financial institutions to address comprehensively the underlying causes of mortgage documentation and related servicing problems. Giving short shrift to these problems unnecessarily elongates the pace of sales of foreclosed properties, which contributes to lower priced and lower quality housing stock, both of which will result in weaker consumer demand and stunted national growth until addressed.

In addition to these persistent operational risk factors in servicing, home foreclosure rates will likely be higher this year as financial institutions publicly assert that they have fixed their internal servicing problems and restart the foreclosures that had previously been halted. In other words, the properties subject to foreclosure that were held back by financial institutions during the robo-signing period will most likely come to market, and these surges will increase the uncertainty of supply, resulting in further uncertainty regarding home values. If more documentation and processing problems resulting from operational inadequacies come to light, the delays in the recovery in the housing market will be extended. In addition to the elevated volume of home foreclosures, elevated inventories of unsold homes and high vacancy rates for commercial properties contribute to the overhang exerting downward pressure on home values. The quality of many homes also has deteriorated, resulting in more downward pressure on prices. In short, the day of reckoning, when institutions that service loans address the failures in their processes and systems, apparently has yet to come, and, therefore, the process of clearing the housing market will remain fitful and unpredictable. All of these possibilities could depress house prices, discourage potential homebuyers, and depress housing starts.

I'm also not certain that the allowance for loan and lease loss reserving that banks have done in response to foreclosure-related investigations and litigation is adequate for future losses. If such investigations and litigation entail significant cost, concerns could be renewed about the adequacy of bank capital. There also could be further damage to the confidence of firms and households, leading to delays in purchases of business capital and consumer durables. If severe deficiencies in reserves were to materialize, credit availability could again contract.

Inflation expectations have remained anchored despite the fact that core inflation remains low. This stickiness benefits the recovery by preventing the natural contraction in economic activity that would occur were real interest rates to rise more dramatically. My previous forecast noted that reductions in employment, income, and wealth had left many households with the need to repair their severely distressed balance sheets. In short, I don't believe that consumer confidence has returned yet to the levels that would be necessary for a faster paced recovery.

My previous forecast also noted continued uncertainty regarding the mortgage documentation problems, which, as I've described, act as a continuing drag on the resurgence of the housing market. I believe these problems have not yet been resolved. In fact, I think they could be exacerbated by related problems, such as the facts underlying the adverse ruling by the Massachusetts Supreme Court regarding mortgage assignments "in blank."

Neither my prior forecast nor my current one explicitly considers any additional, that is, beyond the baseline, effects of consolidation at the state level. In particular, even after making deep spending cuts over the last two years, states continue to face large budget gaps. At least 46 states struggled to close shortfalls when adopting budgets for the current fiscal year, which began July 1 for most states. Fiscal year 2011 gaps total $130 billion or 20 percent of budgets in these 46 states. To comment upon President Dudley's observation that this shortfall is a small portion of GDP, I would add that these gaps come on top of the large shortfall that 46 states faced in fiscal years 2009 and 2010. States could continue to struggle to find the revenue needed to support critical public services for a number of years, threatening hundreds of thousands of jobs. Even for those states whose gaps have been filled and whose budgets are balanced, this story may not be over. Families hit hard by the recession will experience the loss of vital services throughout the year, and the negative impact on the economy could then be prolonged. In terms of federal aid to states, about $60 billion remains to mitigate these 2011 fiscal problems. By 2012, this number will be $6 billion.

Continued high unemployment could keep state income tax receipts at low levels and increase the demand for Medicaid and other essential services that states provide. High unemployment combined with households' diminished wealth due to fallen property values could continue to depress consumption. Thus, sales tax receipts also would remain low. These factors suggest that state budget gaps could continue to remain larger and last longer, themselves manifestations of a slow recovery. Thank you.

CHAIRMAN BERNANKE. Thank you very much. Thank you for a very good go-round. It's 10:55. I understand coffee is ready. Why don't we take 20 minutes?

[Coffee break]

CHAIRMAN BERNANKE. David, did you have any report to make on data?

MR. STOCKTON. We circulated a table on the new single-family home sales that came out this morning.[5] As you can see, they rose a whopping 17.5 percent to 325,000 units. However, to place that increase in perspective, I would direct your attention to the lower left panel that shows the graph. I think this constitutes something pretty darn close to "moribund" in

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

our view. We had been expecting some rebound at 315,000 units, so this is a little better than we expected, but not enough to change our basic story.

CHAIRMAN BERNANKE. Thank you, David. I’d like to thank the Committee again for the useful go-round. Let me try, as usual, to summarize and then I’ll make a few comments.

The tenor of the incoming data has increased most participants’ confidence that a moderate recovery is under way and will continue through 2011. Consumption spending has been relatively robust recently, and investment in equipment and software and exports have also been relatively strong. Payrolls are expanding only slowly, but other indicators in the labor market, including UI claims and surveys of employers, are more positive. Regional and national surveys of producers remain encouraging. However, overall the economy’s adjustment continues to be uneven and slow. Residential construction is a particular weak point. The fiscal compromise enacted in December will provide some additional stimulus, but state and local governments remain a source of fiscal drag. Commodity prices have risen, but measures of core or trend inflation remain low. Risks to both growth and inflation appear more balanced than in the past.

As noted, household spending has picked up recently with a surge in auto spending, more luxury spending, and good holiday sales. There are still some questions about the strength of the supports for consumer spending, for example, employment, income, and wealth. In particular, the inventory of unsold homes, high rates of foreclosures, and tight credit continue to push down house prices, hurting household wealth as well as bank balance sheets, and unemployment seems likely to come down only very slowly. Nevertheless, household confidence has improved slightly.

Many businesses are expressing cautious optimism about the durability and strength of the recovery and are laying the groundwork to expand production when the time comes. Much investment is aimed at productivity enhancement rather than expanding employment, however. Some participants reported that they had heard that skill requirements are being upgraded and that some of the unemployed are underqualified, while other participants suggested that workers at all skill levels still remain easily available. Much hiring is focused on temporary workers. Uncertainty about domestic regulations and taxes may have declined somewhat. Global demand is strong, but the divergent pace of recoveries around the world, building inflation in emerging markets, and sovereign debt costs pose risks to the global recovery. Among key sectors, manufacturing, services, and agriculture are showing strength. Construction remains weak, though commercial construction is showing signs of bottoming out. Larger firms face no shortage of credit or liquidity, but credit remains tight for smaller firms.

Financial conditions remain supportive. European sovereign and banking problems have been more quiescent of late but remain unresolved and pose risks to the U.S. through money market funds and peripheral banks, among other channels. U.S. banks have had better asset quality and are making more loans, but they face problems, including servicing and mortgage documentation issues, loss of fee income, tight interest margins, and weak loan demand. There may be some frothiness in the leveraged loan market. State and local finances do not appear to pose major short-term risks, but these risks could increase in the long run. Rising farmland values are another risk to financial stability.

Core and other trend inflation measures remain quite subdued, although indicators such as the median CPI suggest that the ongoing decline in inflation may have stopped. Higher prices for commodities and for imported goods, especially from emerging market producers, have raised input costs for most firms, although unit labor costs remain very low and profit margins are high. Firms will try to pass through some of these higher costs in some areas, but it is not yet clear whether they can make price increases stick. Inflation breakevens have risen in recent months. Overall inflation expectations seem to have normalized close to the mandate-consistent level. Participants debated the value of resource slack as a predictor of inflation and suggested other measures, including the rate rather than the level of output growth, as well as a suite of statistical models. There was agreement, however, that inflation risks have moderated and that inflation trends should be closely monitored. Any comments? [No response] Okay.

I would like to add just a few things. Like all of you, I was pleased with the intermeeting data, and I think the economy is certainly making progress towards a sustainable recovery with fading downside risks, and that's very encouraging. In particular, I think the real news was the strength in household spending in the fourth quarter, which was about 4 percent growth. Of course, it depends on how you look at it. Under some theories, consumption spending is a perfect predictor of future income, and in that context that would be very encouraging. But I think that I wouldn't go that far, so the question remains, as Governor Yellen mentioned and as the Tealbook mentioned, about the extent to which we should carry through the innovation from the fourth quarter into 2011. I think we should do so a little bit, but we also should be somewhat cautious. First, consumption spending in the fourth quarter was heavily concentrated on autos, which could be a very positive sign, on the one hand, since durables are, of course, pro-cyclical, but, on the other hand, there could be some quirky elements to that, and it will be important to see if that strength persists. The other point is that, as Governor Yellen mentioned, consumption fundamentals still remain somewhat weak. In particular, labor income has been quite anemic. Real disposable income increased at only about a 1 percent annual rate in the second half of

2010, reflecting very slow increases in hours, low labor participation, and slow growth in wages. Of course, we also see that—even though deleveraging has been going on—with declining house prices, wealth-to-income ratios have not really improved very significantly. Higher gas prices also are a minor negative. So I do expect households to be stronger in 2011, but I think it's a bit premature to fully extrapolate forward the strength of their spending in the fourth quarter. It will be somewhat more difficult at the next meeting or two to evaluate the underlying path of household spending because of the payroll tax cut that will cause a big surge in disposable income in the first quarter. So that will be a challenge for us as we try to ascertain the durability of the recovery.

I think what most of us are waiting for, and what I'm certainly waiting for, is to see a couple of strong employment reports. That would do a lot to increase my confidence that firms are back in an expansion mode, and that they have increased their confidence about the recovery, and, in particular, that labor income will be forthcoming to support household spending as well. It has been disappointing to this point that, despite many straws in the wind, the job gains have still remained fairly limited. So we'll have to continue to watch for that.

That being said, I think we should continue to remember, as I mentioned last time, that we are starting from a very deep hole. The employment-to-population ratio, which is now less than 58 percent, is at the business cycle low and is as low as it has been in many years. I noted in a newspaper column the other day the interesting fact that, for the first time in 30 years, the employment-to-population ratio of prime-age, that is 25 to 54 years old, workers in the United States is lower than in Western Europe. This is a striking turnaround, given our image of Western Europe as having very low employment-to-population ratios. Again, I look forward to one or two strong job market reports as an important indicator, recognizing that the situation is not going to turn around overnight.

We had an interesting discussion around the table on inflation. I think it's pretty fair to say that there is essentially no domestically generated inflation. All the inflation we're getting is from abroad, that is, from commodity prices and from import prices. And that, in turn, is arising from what I would characterize as deep problems in the international monetary system and in the global economic system. In particular, the export-led strategies of emerging markets—particularly China, but others as well—has led them to overheat. They are, indeed, facing inflation risks, as Governor Warsh mentioned, and, as President Fisher has reminded us on many occasions, they can export those inflation risks to us via commodity prices and import costs.

I'm not quite sure what to do about that. The Federal Reserve Act says we should be making policy for the United States, not for the world. So how are we supposed to respond to a situation where many countries are, in the old language, not playing by the rules of the game? I think this is an area where we need a broader détente, quite frankly, and during discussions of the international monetary system in the G-20 under France's leadership, I hope that we can make some progress. In the meantime, we're just going to have to figure out the appropriate tradeoffs, and, in particular, make sure that commodity prices and import prices do not begin to infect the domestic inflation rate. I take that, of course, very seriously.

As a bit of encouragement, I would note that some fundamental correlates of inflation in the United States remain very well controlled. Nominal GDP growth, for example, which I've mentioned before, was less than 4 percent in 2010 and in the fourth quarter of 2010. The Tealbook forecasts nominal GDP growth to be 4.8 percent for 2011. It's pretty hard to get 3½ to 4 percent growth and high inflation and still have nominal GDP growth of less than 5 percent.

So I think that's an indicator we can continue to pay attention to. Unit labor costs are another indicator—they declined for the entire year of 2010, and they're projected to grow at a 0.4 percent rate for 2011 and 2012, so that, too, will be an anchor on inflation. Of course, I think we all agree that vigilance on inflation will be necessary, and one thing that would certainly make me seriously rethink our policy stance would be an upsurge in inflation expectations or a serious upsurge in commodity prices. We would have to take those very seriously if, indeed, they occurred. That being said, given the unique nature of where inflation is coming from, I think a bit of patience is probably a good idea.

We had differing views on whether or not our current asset purchase policy is working. You may not be shocked to hear that I lean more towards President Bullard's view on this subject. [Laughter] Of course, it's always very difficult to know (as Barney Frank has said, you can't put a counterfactual on a bumper sticker), but the evidence suggests, first, that, as President Bullard noted, the response of a wide range of financial indicators has been consistent with what you would expect in a monetary easing or in a situation where risk aversion had declined, both of which are outcomes of LSAPs. In particular, I mentioned last time that the increase in equity markets, the decline in equity volatility, the pattern of interest rates declining first and then increasing as expectations for economic growth broadened, the rise in inflation breakevens, the decline in credit spreads, the decline in the dollar, the rise in commodity prices, and so forth, are all consistent with a monetary ease. Then, since August or September, when I think this policy should really be treated as beginning, we've seen an improvement in the outlook. So I think that's all consistent with believing that there is at least some benefit emanating from the LSAPs.

Of course, that's one observation, so, to double my sample size, I asked the staff to calculate the same statistics for the months following March 2009, which was our previous attempt. Without going through the details on all seven of those financial indicators, the patterns were exactly the same, and the lag between the action and the response of the economy was about the same. So there is, I think, some evidence that this has been helpful, recognizing, though, that there are important costs. President Fisher has been particularly assiduous in pointing out the balance sheet costs and expectational costs, and we'll need to take those into serious consideration as we reevaluate this policy going forward.

To wrap this up, I think the news basically has been encouraging. The economy looks stronger. This is still more prospective than actual. We should continue to watch very carefully what develops in the labor market, and we need to keep a close eye on commodity prices and inflation expectations as possible indicators that the inflation situation is becoming more worrisome. I'll stop there unless there are any questions or comments. Yes, President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. I didn't catch what you said about prime-age workers. Were the statistics you were quoting about prime-age males or prime-age males and females?

CHAIRMAN BERNANKE. I'll check it for you, but my recollection was all prime-age workers.

MR. KOCHERLAKOTA. Okay. Thanks.

CHAIRMAN BERNANKE. If there are no other questions or comments, let's go ahead to the policy discussion, and I'll ask Bill English to introduce this round.

> MR. ENGLISH.[6] I will be referring to the package labeled "Material for FOMC Briefing on Monetary Policy Alternatives" that was distributed earlier. The package includes the four draft policy statements and the associated draft directives that were distributed to the Committee yesterday.

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

As in December, the staff has provided three alternative statements, A through C, that are similar in structure, but which vary with regard to the size of the intended increase in Federal Reserve securities holdings—an unchanged level of $600 billion under alternative B, $800 billion under alternative A, and $400 billion under alternative C. In contrast, under alternative D the Committee would announce the end of the purchase program and would make other changes to the statement to suggest that exit from the current extraordinary degree of policy accommodation could begin fairly soon.

Turning first to alternative B, on page 3, Committee members may feel that the recent improvement in the data suggests somewhat better near-term prospects for economic growth, but does not fundamentally change the medium-term outlook for the economy. As Joyce noted yesterday, your latest economic projections show a central tendency for the unemployment rate at the end of 2013 that is not far below the central tendency that you reported in November, when the asset purchase program was adopted. Similarly, your outlooks for inflation are only very slightly different than they were in November. With little change in the medium-term outlook for unemployment and inflation, the Committee may think that it is appropriate to continue the asset purchase program as announced in November in order to support the recovery and help move inflation back toward levels that it sees as consistent with its dual mandate. Even if members were uncertain about the effectiveness of asset purchases as a monetary policy tool, they may judge that unexpectedly discontinuing or reducing the program could cause confusion about the Committee's intentions and weigh on household and business confidence, making such a step undesirable at this time.

Under this alternative, the changes from the December statement would be relatively minor. The first paragraph would reflect the somewhat stronger growth in household spending of late and acknowledge the rise in energy and other commodity prices over recent months. The changes early in the third paragraph are intended to make clear that the policy decision at this meeting is simply to continue the purchase program initiated in November. As noted in the Tealbook, given the quantity of the Desk's cumulative purchases since the November meeting, a pace of purchases of about $80 billion per month is now required to reach a total of $600 billion by the end of June, rather than the rate of "about $75 billion" reported in the December statement. Alternative B offers two possibilities here—dropping the reference to the pace of purchases entirely or changing the words to reflect the $80 billion figure. Regarding the final sentence in the paragraph, in the Tealbook we suggested a new version that emphasized the regular review of, and the willingness of the Committee to make adjustments to, the asset purchase program. However, some members were concerned that markets could mistakenly read such a change in the statement as a signal that the Committee was quite likely to reduce the size of the asset purchase program. In your handout, we included both versions of the sentence as options—the first version is unchanged from the December statement, and the second version is the one that was offered in the Tealbook.

Market participants generally expect today's statement to update the Committee's views on the economic outlook and to make no change to the asset purchase program. Thus, a statement along the lines of alternative B would probably have little effect on asset prices. The version of the final sentence of paragraph 3 that emphasizes the regular review of the asset purchase program could put some upward pressure on rates and might also lead investors to be somewhat more sensitive to incoming economic information, leading to a modest increase in the volatility of asset prices.

If members see the outlook for unemployment and inflation as unacceptably weak, they may be inclined to expand the asset purchase program by another $200 billion and to provide more explicit forward guidance regarding the likely duration of the period of exceptionally low federal funds rates, as in alternative A, page 2. The central tendency of your SEP submissions still shows the unemployment rate three years hence significantly above the longer-run level you see as consistent with your dual mandate, while a majority of you anticipate that inflation in 2013 will be below your long-run objective. Thus, you may believe that you could improve on these economic outcomes by providing additional accommodation—a conclusion that is consistent with the optimal control simulations in the Tealbook.

The description of the economy under alternative A would be quite similar to that under alternative B but would suggest a bit less confidence about the outlook for economic growth. The second paragraph of the statement would note that measures of underlying inflation are "low," not just "somewhat low," that progress toward the Committee's objectives remains disappointingly slow, and that "there are still significant downside risks to the economic outlook." The fourth paragraph would provide more explicit forward guidance about the expected path for the federal funds rate by specifying that exceptionally low levels were likely "at least through mid-2012."

A decision at this meeting to increase further the intended size of the Federal Reserve's securities holdings and to strengthen the forward guidance would come as a surprise to market participants. Longer-term real interest rates would decline, stock prices would rise, and the foreign exchange value of the dollar would likely move lower.

Alternatively, the Committee may see the improvement in the economic outlook over the intermeeting period as having reduced the benefits of additional asset purchases relative to their likely costs and so may choose to trim the intended size of the purchase program to $400 billion, as in alternative C, page 4. Members may have read the incoming data over the intermeeting period as suggesting a stronger outlook for both economic growth and employment and a reduced risk of deflation, along with an associated reduction in the odds of a protracted period of economic weakness. Indeed, as Joyce noted yesterday, many more of you now see balanced risks to your economic growth and inflation outlooks than was the case in November. Members may also be concerned about the possible effects of a larger balance sheet on Federal Reserve earnings and remittances to the Treasury that Brian outlined yesterday. You may also feel that a very large balance sheet could complicate the withdrawal of monetary accommodation when that becomes appropriate and so could lead to a greater-than-desirable increase in inflation that would be costly to reverse.

The statement under alternative C would provide an assessment of the outlook similar to that under alternative B but would drop the reference to factors constraining household spending and would note that "business investment is rising." The second paragraph would end by stating that "there are some indications that the economic recovery is strengthening." The final paragraph of the statement offers the option of providing an explicit numerical inflation objective, which might be seen as helpful if the Committee were worried that inflation expectations could come unmoored. However, the Committee may want to undertake additional preparatory work before taking such a significant step.

A decision to slow the pace and reduce the intended size of the Committee's securities purchases at this meeting would surprise market participants. The result would presumably be an increase in longer-term interest rates, lower stock prices, and a rise in the foreign exchange value of the dollar.

Finally, the Committee may feel that, with the economic recovery continuing, and probably gathering strength, further expansion of the Federal Reserve's securities holdings is not necessary to achieve the Committee's objectives. In that case, members might choose to stop adding to the Federal Reserve's securities portfolio immediately and signal a less accommodative policy path in the future, as in alternative D, page 5. That approach could seem particularly appropriate if members judged that much of the current elevated level of unemployment reflects a rise in structural unemployment that cannot be effectively addressed by additional monetary stimulus, as you discussed yesterday afternoon. In addition, some members may also be concerned that continued extraordinary policy accommodation could lead to the development of costly macroeconomic or financial imbalances.

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

Draft directives for the four alternatives are presented on pages 6 through 9 of your handout. Thank you, Mr. Chairman. That completes my prepared remarks.

CHAIRMAN BERNANKE. Thank you. Are there any questions for Bill? [No response] Before we start the go-round, let me make a somewhat orthogonal comment. In alternative C paragraph 5 there's a reference in brackets to a numerical inflation target, which we put there as sort of a placeholder. You may recall that we've been discussing off and on the issue of improving our communication and credibility by using a numerical target—we discussed it at the videoconference in October. We have not yet come to any conclusion on that issue, despite the fact that there is quite a bit of interest in that approach around the table and that this may be a particularly good time from a political receptivity perspective. So, as I mentioned last time, this might be something we want to keep alive as we go forward.

After the last meeting, President Plosser came up to me and asked if he could be of any assistance on this, and I suggested that he might want to talk informally to a few people across the spectrum of the Committee to get a sense about whether there was any way forward on this. He said he'd be glad to do that, and he spoke to a few people during the intermeeting period. I wanted to mention this to everybody so that you'd know that some informal discussion has been going on, and I hope that's okay. It seems we've had plenty of formal processes on this in the past, and maybe just a few informal conversations could be useful. Everybody is, of course, entitled to have his or her own conversations or to contact Charlie, as you wish. If we make some progress in terms of a proposal or an approach, then perhaps we could turn it over to a more formal process and bring it forward to the Committee once again. In any event, we surely would not make any change to our communications strategy without a full formal review and Committee decision. Any concerns, questions? [No response] Okay, then let's turn now to the policy go-round, and I have President Lacker first.

MR. LACKER. Thank you very much, Mr. Chairman. From the comments during the economic go-round, I think everyone acknowledges the extent to which the prospects for economic growth have improved over the last couple of meetings, although there's also wide recognition of the need for a bit of caution about how exuberant one gets about them. I'm in the camp of doubting that our asset purchases made a huge contribution to the improvement, notwithstanding your observations, Mr. Chairman. I say that because I personally doubt that changes in long-term yields have been very important to firms' investment and hiring decisions or to consumer spending decisions, which seem to have been at the core of the improvement in the outlook. The way in which growth has strengthened has reduced my assessment of the likely benefits of our asset purchases. I also doubt that we've had that much effect on yields so far. At the same time, I think the stronger outlook brings forward the time when we're likely to want to remove monetary stimulus. To my mind, then, it has raised the risk that continued balance sheet expansion will prove excessive, in the sense that it sets back the starting point for us to remove stimulus.

Let me note a couple of points. One is that bank reserves have not changed much at all since we began this asset purchase program. We're about to see a $450 billion increase over the next two months in bank reserves, so that undergirds my sense that we haven't seen much effect yet from what we've done, and we could well see a lot in the next couple of months. The second point has to do with inflation, and I think you were correct, Mr. Chairman, in your comments about the importance of being careful with this surge in commodity prices that's coming from overseas and affecting our headline inflation rate. Our experience over the last couple of decades has been that there is a measurable effect on core inflation from these energy price surges, so that's another justification for some caution about inflation going forward.

For me, the case for continuing the program is eroding a bit. I don't think it's reasonable to scale it back right now—in any event, we've done nothing to prepare markets for such a change, as is our well-established custom. It does seem to me, however, that there's a reasonable chance of data coming in over the next couple of months that are consistent with stronger economic growth. And I think you're right to highlight the employment report—if we were to get very strong employment reports in the next couple of months, I think that would change the whole tenor of the outlook markedly, both in markets and within our Committee, and I think we'd seriously want to consider adjusting our asset purchase program in March.

In light of these thoughts, I see value in preparing markets for that possibility—not promising, but preparing them for that possibility through your testimony and through the minutes reflecting our concern about that possibility. I actually liked the original version of the last sentence of paragraph 3 of alternative B, despite the fact that it seemed to imply that we didn't review our program in December. We used the future tense there and the present tense here.

I also have concerns about other parts of the statement. Paragraph 1 of alternative B seems more downbeat than I think we are around the table. I think paragraph 1 in alternative C does a much better job of capturing where we are on the outlook. In particular, this litany of factors restraining household spending seems a bit discordant, because, as you said, the big news in the fourth quarter was that consumer spending was stronger than we thought. Therefore, I'd advocate substituting the first paragraph of alternative C for the first paragraph of alternative B.

I have one more thing. I applaud your initiating conversations and further discussions about an explicit numerical objective for inflation. I would just add this observation about these four words, "or a bit less." In the past, I've brought up my brother-in-law sitting in front of retirement planning software and calling up his brother-in-law who is on the FOMC and asking him what number he should put in for inflation for the next 20 years. And I'm wondering what I'd tell him if our objective was "2 percent or a bit less."

MR. WARSH. We're going to get to that in the communications section. [Laughter]

MR. LACKER. Even though I've advocated 1½ percent, I'd be happier with 2 percent than with "2 percent or a bit less."

CHAIRMAN BERNANKE. Thank you. President Rosengren.

MR. ROSENGREN. Thank you, Mr. Chairman. I support alternative B as written. We should stay the course. Inflation remains well below my inflation target and output well below potential through 2012. With the very low inflation rate forecasted to continue for several years, we have ample room to be accommodative and encourage more rapid growth. I expect to complete the entire purchase program. Our purchase program is certainly consistent with our dual mandate. In fact, it would be justified if we had a sole mandate of targeting 2 percent inflation over the medium term. Thank you.

CHAIRMAN BERNANKE. Thank you.

MR. FISHER. Could you take a little bit longer, President Rosengren, with your summary? [Laughter]

CHAIRMAN BERNANKE. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. I will take up some of President Rosengren's time. [Laughter] I support alternative B, but I would recommend some changes in language. Like President Lacker, I prefer the first paragraph of alternative C, because I think it does a better job of reflecting the change in the data that we've seen in the intermeeting period, which is the point of that paragraph. In paragraph 4 of alternative B, I would like to propose the following edit: Change "stable inflation expectations" to "stable longer-run inflation expectations." I think short-run inflation expectations have not been as stable as longer-run expectations have been, and, since we're probably more interested in longer-run expectations anyway, it's worthwhile putting that in.

If I'm being asked to choose between the last two sentences of paragraph 3, I prefer the penultimate one to the ultimate one. My attitude is: If we're not changing our program, then why change the language?

I wanted to say a few words about the future. As I said earlier, I think monetary policy is an exercise in contingency planning and in risk management. I think the Tealbook does a great job of identifying the key risks. On pages 6 and 7 of Part B of the Tealbook, the staff leads us through a very imaginative scenario—I applaud them for taking it on, and I think what they did was really cool. They take the NAIRU as actually being 6¾, but the central bank will only learn that fact slowly. The analysis concludes with the following sentence, which I viewed as ominous: "The inflation consequences would be much larger and more persistent if the public were to misread higher-than-target inflation as a sign that the FOMC had raised its long-run inflation target." Given the reaction to the second LSAP, this kind of miscommunication and misinterpretation is a real possibility, and we should be thinking about conducting monetary policy to manage our exposure to this risk.

To that end, I'm going to describe three scenarios under which we'll need to make a decision about our strategy. For simplicity, I'm going to say that our next decision point is June, though, obviously, whether it actually is or not depends on what happens. The first scenario—and, by the way, I don't think it's the most likely case—is an adverse one. Unemployment remains near 10 percent. Quarterly and year-over-year inflation remains subdued at, say, 1 percent or even less than 1 percent. Short-run and longer-run inflation expectations remain in the 1½ to 2 percent range. This basically describes the status quo. In this scenario, I do not believe there's a need to expand the LSAP or to contemplate exit in the near term. I think the current monetary policy stance would be appropriate. Of course, we can all imagine scenarios even worse than this, and, if they materialized, we would, I think, want to expand the extent of our accommodation. Because of our conversations last fall, we have a pretty good understanding of how that accommodation might work, although I would recommend expanding our set of tools beyond the LSAP.

Let me turn now to what I view as the most likely scenario. Output growth in the first quarter is at least 3 percent, maybe closer to 4 percent. Employment growth averages 200,000 jobs per month for the next six months. Unemployment gets down closer to 9 percent than 10 percent. That scenario sounds like the Tealbook, but I want to add a key element that I was stressing in my economic go-round statement: Inflation has averaged between 130 and 150 basis points in the first half of the year, and market expectations imply that inflation will be about 170 to 200 basis points over the coming year from June to June. This scenario is consistent with my own forecast for inflation, and, perhaps more importantly, it's also consistent with the Blue Chip and financial market forecasts. If this scenario materialized, all three of the auxiliary measures of slack that I described in my economic go-round would have fallen in the first half of the year. And, presumably, we should be thinking about them as being even more likely to be at or near zero by the end of 2011. So the Committee would need to begin internal preparations for exit, and, in particular, we would need to decide whether we still liked the sequence of moves we seemed to have reached a consensus on last year: First, remove the "extended period" language; second, start draining reserves; third, raise rates; fourth, start selling assets. In addition, we'd need to decide the optimal time frame for the preferred sequence of moves. Do we think about one, two, three, or even four meetings from initiation to get to the key step of raising rates? I think both kinds of topics would be appropriate in June, given what I've described.

The third scenario is the "good news" outcome—and, like the first scenario, I think it's unlikely. However, I also view it as troubling, because I think we're largely unprepared for it. In this scenario, things turn out very well compared with what we expect. Output grows at close to 5 percent in the first quarter and looks just as strong in the second. Headline inflation in the first half of 2011 is over 2 percent, and core is between 1½ percent and 2 percent. Employment growth averages nearly 300,000 per month, although unemployment would still be above 9 percent. If this scenario materialized, we might need to initiate the first steps of our exit strategy as soon as August. We might need to compress the time we take for the four steps that I've described.

In considering the latter two scenarios, I think it would be very useful to have staff analysis to address two specific questions by our April meeting. The first question is: If we drop the "extended period" language, what do markets expect about when we're going to raise rates? Is it three months, six months? And what would be the consequences of moving faster or slower than markets expect? The second question, and President Lockhart has stressed this point before, is: How many reserves do we need to drain to be able to raise rates effectively? And how fast can we possibly do it without adverse consequences? I think that having this analysis in hand in April would put us in position to react to these last two scenarios in a thoughtful manner. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. I think that in 2004 there was an occasion where the language changed at one meeting and then there was an increase at the subsequent meeting. So there was only a one-meeting delay between the language change and the action. Obviously we can work that through. President Evans.

MR. EVANS. Thank you, Mr. Chairman. I want to start by talking about the Chicago Bears. I was going to try to link this point somehow to President Fisher's discussion of the Texas Aggies the last time, but, instead, I'm going to link it to paragraph 1. I've been in Chicago now for almost 20 years, and I've reluctantly come to embrace the Bears. This year, the Bears really weren't that great of a team—the fundamentals weren't really that good. But, somehow, things picked up, and they made the playoffs, and they made the championship game. Then, with all of the buzz in town, people got excited. And if you lost your discipline, you could sort of convince yourself that the Bears were really quite good. [Laughter] And, you know, they were quite good. However, they ran into a team that beat them, and that's because the fundamentals really were not as good as everybody had come to believe. And I think that the economy is a little bit like that. We've had some good numbers recently. That's very helpful, but the fundamentals are not quite as strong as we'd like. So I'd prefer paragraph 1 in alternative B as it is written—it's closer, certainly, to the way I view things.

Mr. Chairman, I support alternative B, and I view it as having several essential elements. Let me elaborate on my reasoning. As I first began articulating in the summer of 2010, I continue to hold the view that the U.S. economy requires aggressive monetary policy accommodation in order to be confident that we will escape our current liquidity trap conditions. These conditions emerged following a recession of historic proportions, an unusually rapid fall in underlying inflation, and a financial crisis that erased $11 trillion of net wealth at current count. These lost funds represent savings that households were banking on for future consumption and things such as college and retirement needs. I think the growth in the U.S. economy will be restrained by these losses for some time. The fundamentals are still sort of weak. Under your leadership, Mr. Chairman, our subsequent policies have been very helpful for improving the economy's trajectory, and I fully supported them, and I agree with President Bullard's assessment of the asset purchase programs, although, of course, others can disagree about that.

However, my preferred policy course would have added an explicit and potentially substantial policy boost by adopting a state-contingent price-level target. Such a communications tool would still add a welcome commitment that our accommodation will not be withdrawn prematurely—and I think we're going to be talking about this all year long. Still, our additional communications regarding mandate-consistent inflation objectives have been a welcome step in that direction. In my view, our current approach is a pragmatic, second-best policy. For me, it's a compromise that I can embrace as long as the economic and inflation data continue to improve along the lines that we're expecting and we move towards our mandated goals, and as long as our policy accommodation is not withdrawn prematurely.

I recently stated publicly, while I was on a panel with Mike Woodford at the American Economic Association meetings in Denver, my view that our $600 billion of asset purchases helped to reinforce our policy statement that short-term nominal interest rates will remain exceptionally low for an extended period of time—that's what our FOMC statement says. It was a great pleasure to have Governor Yellen in the audience. Professor Woodford, of course, has also advocated price-level targeting. During the discussion, he agreed that committing to keeping rates exceptionally low was important, and, to his mind, more important than the actual asset purchases themselves. Therefore, I think this continues to be a combination that has some attraction within the economics profession and is a mainstream view of the current U.S. situation, although it is not necessarily widely accepted.

The other essential element is the target scale for our asset purchases. My reading of the data continues to be that it is too early to make a judgment about whether $600 billion or more or less is appropriate. Directional improvements in economic data have been very welcome. More improvement is needed through the spring to add confidence to this assessment. I won't be surprised if the Committee's ultimate judgment is for a total asset purchase of $600 billion—as I already stated, the more critical judgment is to keep short-term rates exceptionally low for an extended period. I currently believe this will be important until actual data for broad-based, underlying, and sustainable inflation are coming in at at least 1½ percent year over year. If President Kocherlakota is right and we do get that kind of reading on inflation, I really don't disagree with his views on that scenario—but I view getting that reading as less likely. In any case, the data will come in, and, as they play out, we'll evaluate our strategy.

In terms of commodity prices, there are certainly risks, and we've faced them before. It seems to me that the analysis suggests that commodity prices don't impart that much pressure on inflation. Let me give you an odd example. Before our board meeting last Thursday, Dan Sullivan came to me and said, "You know, we've got this inflation dashboard that a couple of our directors wanted us to put together, and it looks at different indicators. And right now, commodity prices are flashing red." I said, "Oh, that's surprising. I didn't know that inflation would be rising." And he said, "No, no, no, no. The commodity price indicator is indicating lower than average inflationary pressures." That's totally counterintuitive, right? Let me tell you how this works. We use an analytical approach that tries to convey the additional information contained in the commodity price indicator, that is, "additional" relative to the history of inflation. Well, in a regression that looks at past inflation, those data are signaling low inflationary pressures. When you tell the program to look at commodity prices, it basically says, "Thanks for calling." In other words, it doesn't add anything, because it just can't overcome the disinflationary effects. Of course, we can have different views on the type of analysis, and outcomes can differ. For example, the outcome was different in 2008, when we were somewhat worried about commodity prices. Even I started worrying about commodity prices in August 2008, and inflation ended up falling. Now, if you like to put weight on Phillips curves, this analysis is not a hard thing to embrace, because unemployment went up—a lot of slack was created—and inflation went down. If you don't like to look at resource gaps, then it's even more puzzling that inflation fell, but that's not for me to talk about.

So, on that basis I think that if inflation gets up to 1½ percent, then we'll have to start worrying about it. And, of course, we have to monitor it—no doubt about that. We also have to look at the labor market trajectory and have confidence that it's trending towards a path that can plausibly be characterized as consistent with our mandate. I agree that a couple of strong jobs reports would help add that confidence. So, Mr. Chairman, I support alternative B and the important elements therein. Thank you.

CHAIRMAN BERNANKE. Thank you. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. Last fall when we deliberated whether or not to institute a new round of LSAPs I expressed my misgivings about that strategy. In my view, the potential costs of such a policy, which I viewed as occurring in the intermediate to longer term, outweighed what I perceived to be the short-run potential benefits. I still hold that view.

Determining the appropriate timing of when to begin to reverse the path of policy always poses a challenge for this Committee. By necessity, we have to make this decision with some degree of uncertainty, given the lagged effects of monetary policy on the economy, the imprecision and uncertainty surrounding our forecast, and even revisions of data at times. That part is nothing new. However, I view the risk of getting behind the curve this time as likely to be higher than usual. Both the size and composition of our balance sheet complicate our exit strategy, raising the risk that we won't be able to respond as rapidly as we should to curtail potential inflationary pressures. My view is that our focus on the level of output and the level of unemployment gaps raises the chance that we will not act soon enough. Thus, there are costs associated with the LSAPs that could loom large in the not-too-distant future.

I will repeat the point that I made in the economic go-round. From firms in my District, I hear a lot of talk about commodity costs, as well as a lot of talk about their reluctance to raise prices. While in some cases firms are seeing solid profits, many firms perceive their margins as being squeezed by the rise in costs and they're starting to consider seriously raising prices. If those firms believe that they're far behind the curve in that process, then we could be facing a time when those price increases may come fairly rapidly. And we may find ourselves in a position where we have to react both quickly and perhaps aggressively.

We talk a lot in this Committee about managing tail risk. It seems that we focus more on downside tail risks than on the other tail of the distribution. I'm simply pointing out that this is a risk we face and that we'd better be prepared for managing that risk or managing the outcomes if that comes to pass. I think President Kocherlakota's description of three scenarios is a good way to think about that.

In the fall, I thought the potential benefits of the LSAP did not outweigh the potential costs. I think economic growth began picking up in the third quarter of last year, not in the fourth—we had a 1 percentage point increase in growth rates from the second quarter to the third quarter. Deflation risks, as we have all noted, seem to have subsided. I think growth rates are going to be somewhat above trend for the next two to three years, and I believe that employment is going to pick up.

However, mine was not the prevailing view in the November meeting, and the Committee decided to go ahead with the second round of purchases. I accept that. In considering policy today, I recognize, though, that there are costs to introducing policy volatility. We risk confusing the public about our policy direction if we change too much or too often, without sufficient justification or conditions to warrant it. I think that source of uncertainty is something that we should try our best to keep small. I think that is the situation we are in today. So I don't think it would be prudent to begin curtailing the LSAP program today, even though I wasn't in favor of instituting it in the first place.

Moreover, I have never been a fan of trying to fine-tune policy when we are using the short-term interest rate as our policy instrument rather than asset purchases, so I think it would be a particularly bad idea to convey to the public that we can fine-tune LSAPs. In my view, LSAP policy should not be viewed as business-as-usual monetary policy. LSAPs are an unconventional policy tool, which should be reserved for times of economic crisis—when inflation expectations are falling, when there is a danger of sustained deflation, and when we are operating at the zero bound.

I don't think this is a policy we should try to fine-tune, because we do not have enough understanding of the effects that different amounts of purchases will have on the real economy in order to calibrate an asset purchase program to achieve our objectives. This means, I think, that once we have instituted a program, then there needs to be a clear change in the outlook to justify a change in the program. I don't think that has happened at this point, but I don't rule it out either. For example, it is certainly possible that, over the next few months, the economic outlook will strengthen further, with inflation rising and employment growing at a more robust pace. In that case, I would like us to be in a position to be able to curtail the LSAP2 program early. Even if that doesn't happen, if the forecast plays out as laid out in the Tealbook, I would not favor another round of LSAPs if the economy performs under that scenario. In either case, I think we need to start planning for the eventual end. This means our communications need to be sufficiently flexible so that we will be in a position to allow the LSAP program to end in June, or earlier if the outlook calls for it.

We should also consider changes in the language that will allow us to implement other parts of our exit strategy, which may be raising interest rates, curtailing reinvestments in MBS, or other strategies we might want to consider. Furthermore, stressing economic growth rates, inflation, and inflation expectations in our description of the economic conditions would help convey the types of information on which we will be conditioning a change in policy direction down the road. By continuing to stress the level of unemployment, we risk creating expectations that this Committee will delay tightening until the level of unemployment reaches some desirable target. That would make our task even more difficult and make it hard to act in a timely manner.

Regarding the language, like President Kocherlakota and President Lacker, I think the tone of paragraph 1 in alternative B is too negative on the economy and is inconsistent, I believe, with the kind of language we have used here. In fact, as I noted earlier, the chart showing the balance of risks in our own forecasts has switched dramatically since November, and I think that the minutes and our statements need to reflect that change. I don't think alternative B, which looks a lot like alternative B from the last meeting, reflects that change. So I would prefer paragraph 1 of alternative C as a substitute in alternative B. In particular, I think phrases like "Employers remain reluctant to add to payrolls" are too negative. It would be better to talk about payroll growth.

In paragraph 2, I would prefer that we de-emphasize the level of unemployment. We know that unemployment rates lag the economy and that the Committee will need to reduce policy accommodation before the unemployment rate falls to anything close to an acceptable level, regardless of what the natural rate is, which we don't know. If we continue to point out that the unemployment rate is high, it will be harder for us to explain why we are reversing course when unemployment is still elevated in many people's eyes. Instead of saying that the unemployment rate is currently elevated, I would prefer to say something like, "Currently, employment is growing, but at a modest pace." After all, there is a difference between employment and unemployment rates, though, of course, they are closely related. But the timing and behavior of unemployment rates and employment have different cyclical properties, and I think we need to acknowledge that.

I am fine with the proposed change in the last sentence of paragraph 3 in alternative B. However, given that we are making a change, I would like to convey more, again, about the conditioning variables that we will take into account when the time comes. So I would prefer that we say, "The Committee will continue its practice of regularly reviewing the pace of its security purchases and the overall size of the asset purchase program in light of incoming information," and then add "on inflation, inflation expectations, and output growth. It remains prepared to adjust the program as needed in the future." I think that gives a better signal about what conditioning factors we will be looking at and thinking about.

Regarding paragraph 4, I am okay with maintaining the "extended period" language at this meeting, but I think that we will need to change that language as we prepare for exit. This might coincide with the time when we decide that we will not continue the LSAP program, and, obviously, if we let it run until June, we will have to make a decision before June and signal whether we are prepared to continue it or discontinue it. So we will have to think earlier about those sorts of language changes. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Pianalto.

MS. PIANALTO. Thank you, Mr. Chairman. I support alternative B. The data since the last meeting have been more positive, but I do not think the change has been significant enough to warrant a shift in our policy. The economy is still facing substantial headwinds, and the inflation rate remains very low.

I did find the mention of an inflation target in alternative C to be an intriguing addition. I'm quite supportive of more firmly establishing a numerical objective for price stability, and I look forward to being able to put a sentence such as the one that is in alternative C into our statement in the not-too-distant future. But, as Bill English mentioned, I don't think we are ready to take that step today. We still have some work to do to prepare the public to understand why a numerical objective should be seen as an improvement in our policy framework and how we intend to operationalize the objective. I also recognize that, before we can prepare the public, we need to work through some of our own differences of views on the role of the numerical objective in our policy process. Nevertheless, I do believe that there is much common ground within the Committee on this issue, and I would be in favor of having a structured discussion of this issue very soon.

Regarding the language options in alternative B, I favor adding the updated $80 billion pace of asset purchases. And given that every word change is scrutinized, I have a slight preference for keeping the last sentence in paragraph 3 the same as it was in our December statement. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. I support alternative B for today. I would counsel that we wait a meeting before adopting something like paragraph 1 from alternative C. Although I am sympathetic to that, I wouldn't do it at this meeting. I also think that the "continued its practice of regularly reviewing" clause is fine. Basically, I think it is too early to consider deviating from our November decision at this juncture. I would urge the Committee to take the idea that the program is reviewable and changeable very seriously, and I want to advocate that adjustments could be made in either direction, depending on the performance of the economy, and remind everyone that the economy does tend to be uncooperative with our best forecasts. Adjustments could be very slight. For instance, the pace of purchases could be slowed while simultaneously moving back the end date of the program, keeping the total amount of purchases unchanged. This might be viewed as giving the Committee more time to assess the strength of the economy during 2011, if that was considered desirable.

I agree with President Plosser that the March/April time frame will be the appropriate period to consider any changes to the course of action agreed to in November and, hopefully, to set, or at least to sketch out, an appropriate policy course for the second half of 2011.

I would also stress that monetary policy is an ongoing process, and not a series of one-time actions. I would implore all of you to stay away from the idea that there is such a thing as QE3. There is a continuing process of balance sheet policy. Management of the balance sheet will remain important for some time, and I encourage the Committee to think in terms of active management, either higher or lower, for the foreseeable future.

I think commodity prices bear watching, and I want to comment on President Evans's notion of commodity prices. President Evans said, "Maybe they don't matter, because they do not seem to enter a regression once the regression has lagged inflation." My comment is as follows: A good inflation-targeting central bank, which I, of course, think that we are, will find that only the inflation target matters. You keep taking actions to keep inflation close to target, and then, when you run a regression, you find that it is only lagged inflation that matters, because the policymaker is taking appropriate action to keep inflation near target. But that seems to me to be different from saying that you shouldn't take the signals that the economy is sending you as a reason to take action.

I also now think that the rise in commodity prices in the spring of 2008 badly damaged the U.S. economy, at least in retrospect, and exacerbated problems that already existed in financial markets, eventually leading to the collapse of many of the nation's largest financial houses. So we have to be very much on guard about this commodity price issue this time around. I also agree with you, Mr. Chairman, that global interactions are a key concern going forward. I have written on this. I have strong opinions on this, but I am going to spare all of you my comments on this and save that for another day. Thank you.

CHAIRMAN BERNANKE. Thank you. First Vice President Moore.

MR. MOORE. Thank you, Mr. Chairman. I favor alternative B. A few minutes ago, President Evans used an analogy involving "da Bears," but as a non-Chicagoan I wasn't really fooled a bit by the Bears' regular season success. [Laughter] To me, it was clearly noise and not signal, as it relates to the playoffs. Then, a few days ago, President Fisher compared monetary policy with playing a higher level, multidimensional chess game. I was never much of a chess player—even at two dimensions, I couldn't figure it out. So I thought about what analogy I might use, and I recognize that I do have a fondness for Formula 1 racing, which I learned the other night I have in common with President Lacker. So that is where I'll go today.

The financial crisis was like an in-race accident, and our race car had to undergo major repairs. Now we are back in the race, but facing a large gap that developed with the lead cars—a gap which I will equate to the resource slack in our economy. I expect very fast GDP growth this year with the economy running on all cylinders. But it is important not to confuse fast growth with full or near-full employment. Just because you are running faster laps than the leaders doesn't mean you are going to catch them soon when you are running from as far back as we are. Even with fast growth, it's going to be a long trip to full employment. And this distinction between growth and levels seems crucial to me for our policy communications. Thank you.

CHAIRMAN BERNANKE. Thank you. President Hoenig.

MR. HOENIG. Thank you, Mr. Chairman. Today we have talked about evidence that the economy is growing at a more sustainable pace, and I certainly agree with that. I also see further upside risk to current forecasts, as do the analysts in most of the recent Blue Chip surveys, and I do think that the first paragraph in alternative C is more appropriate than the one in alternative B. The economy is undergoing a major and necessary rebalancing. It is taking place, and I think it is risky to try to accelerate that. We must be careful. The process takes time.

We should, therefore, begin to remove policy accommodation slowly to make it more balanced as the economy rebalances. Obviously, an early challenge we face is to reduce the large and growing level of excess reserves. I am not concerned with the ability of our reserve draining tools. We have tested them, and I think they are sufficient. My greater concern is the natural tendency of this Committee to delay the start of removing policy accommodation, leading to new financial imbalances and longer-term inflationary pressures.

I very much agree with President Kocherlakota, in that I think we should begin to think about exit now, so that we can address it in a timely and systematic way. Bill English commented today that if we change the language, we'll upset the markets—I agree with that, and we're going to hear it over and over. That encourages us to delay our actions. But the longer we delay, the greater will be the disruption, both expected and actual, to markets when we do move to tighten. So we have to keep that in mind, and that's why I think this analysis that President Kocherlakota outlined is so important. The first step that we have to take will be to shift our public statements from indicating a need for more monetary stimulus to indicating sufficient stimulus is in place to attain our long-run goals of maximum employment and stable prices. I won't go into detail on the wording in the paragraphs, because I've already indicated that I agree with looking at this longer term.

I also want to discuss price targeting. My inclination is to favor it. Rather than calling it a target of 2 percent or a bit less, we can talk about the central tendency of participants being 2 percent or a bit less. I know we think that's the right thing, but I want to point out that this crisis we just went through was not caused by missing our inflation target. It was caused by our fear of deflation, which caused us to push real and nominal rates down for an extended period of time, and that led to asset price bubbles and the consequences of their bursting. Therefore, adopting an inflation target doesn't mean we will not find ourselves causing other imbalances in the future, unless we take a look at our policy as more than inflation targeting. I will end with that. Thank you.

CHAIRMAN BERNANKE. Thank you. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. I support alternative B. I think the wording in paragraph 1, with the slight updates, is appropriate as presented. I think President

Fisher suggested in a note before the meeting adding a clause to the end of paragraph 2 that said something like: “though there are indications that the recovery is strengthening.” I am sympathetic with that, because I think that most of our 2011 forecasts, including my own, have been revised higher, and I don’t think that is inconsistent with paragraph 1.

I support keeping the “extended period” language in paragraph 4. I think the phrasing still pertains, and I am wary of making a change at this juncture, given the intense attention this phrase has had in past months and the likelihood that dropping it or stating an explicit date would set off an unintended market response and certainly would mislead markets regarding how policy may play out.

With respect to the addition of the numerical inflation target language bracketed in alternative C, paragraph 5, I am hesitant to support this in this statement. I do, in general, support the notion of a more explicit inflation objective as part of our framework. However, I think that further official policy communication moves in that direction ought to be taken only after the Committee has come to a more formal decision about whether and how to implement a more explicit inflation target.

On the question of dropping or adding guidance on the quantity of purchases to $80 billion—here comes a double negative, which I love—I see no reason not to include the language that was added yesterday that raises the number from $75 to $80 billion. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Fisher.

MR. FISHER. Thank you, Mr. Chairman. A couple of things come through from listening to the conversation that we had earlier about the economy. One thing that’s very clear is that things have shifted. I think our words and our deeds need to recognize that the economy is much stronger. It has moved forward, and it has more forward momentum and sustainability than was the case last summer and autumn when QE2 was proposed and formulated. As a corollary to that, I think the economic expansion seems much less vulnerable to shocks. Like President Plosser, I have made it very clear in my public statements and at this table that I would have not supported QE2, but QE2 is in place.

One thing that is fairly clear to me is that inflation is at an inflection point. It could—and I stress "could"—come under considerable upside pressure from what I consider to be reduced slack in the global economy and possibly less slack here in the United States than is generally appreciated. And one could make the argument that a continuation of QE2 purchases will only add to this inflationary pressure. I am concerned about the fact that businesses and banks seem to be drowning in liquidity. I think it's leading not just to speculative activity of the kind that President Hoenig and others have mentioned, such as farmland price appreciation, but also to the misallocation of resources. So I am eager to normalize the allocation of credit as soon as it is feasible. In addition, I do worry about the inclination I'm hearing from business leaders to want to exercise pricing power. They will look for any excuse they can to do so, because their margins are so tight and because they're eager to grow their top lines and sustain their stock values. But I think we're going to need a couple more months of data to confirm that directional shift.

I also feel that there have been some negative consequences to QE2, some of which affect those most deeply in need. It has certainly exposed many pension funds as the Ponzi schemes that they are, and it has hurt the small saver significantly, particularly in the lower income quartiles.

I could argue for alternative C. I could even argue for alternative D, but I won't. I'm convinced the economy is on a sustainable growth trajectory, but I could be too optimistic. I think we need a few more months of evidence to support my convictions before reducing or stopping the additions to our balance sheet.

I do think we should be communicating about our flexibility. I do believe there is some value in our making more positive statements about the economy. After all, we heard them at this table, and we believe them.

With regard to the difference between alternative B and alternative C, I think reputational risk cuts two ways. President Plosser referred to this in a different fashion, but some do argue that we damaged our reputation with QE2. Some might argue that we shouldn't have undertaken QE2, but I think shifting gears too quickly would indicate weakness, in that we would not be sticking to our conviction at least until we see the whites of the eyes of recovery. So I am in favor of alternative B. I listened very carefully as President Kocherlakota and President Plosser advocated substituting paragraph 1 in C for paragraph 1 in alternative B. I think you could probably take care of their concerns without making that substitution by adding what President Lockhart just endorsed, namely, putting a comma at the very end of paragraph 2 after "disappointingly slow" and adding, "although the economic recovery is strengthening." Alternatively, in the first sentence of the first paragraph you might say "confirms that the economic recovery is strengthening." So I don't see a need for the substitution of the first paragraph from alternative C into alternative B if we don't want to change too many words. But I would suggest that we find a way to indicate the mood that was expressed at this table, namely, that the economic recovery is, indeed, strengthening even though it is still constrained. And I believe President Lockhart's endorsement of my suggested sentence is the way to do it rather than shifting those paragraphs.

I would add one word in the first paragraph. "Employers remain reluctant to add to domestic payrolls." In a sense, that's one of the problems that I've been talking about for quite some time, and you point out the difficulty of differentiating between our role here as the U.S. central bank and other pressures that are developing worldwide. But I still find employers are reluctant to add to domestic payrolls.

With regard to the $80 billion sentence, I'm a little worried about that. It is the truth, but at the same time, I think the markets will pick that up. There will be much discussion about it. It's much ado about nothing. We're still on a $600 billion pace, and that number could change as early as our next meeting—it could be 85 or it could be 75. So I'm not in favor of pointing that out. I would end the sentence with "securities by the end of the second quarter of 2011." And I rather liked President Kocherlakota's insertion of "longer-term" between "stable" and "inflation expectations." Those are my suggestions, Mr. Chairman. I will support alternative B. I would like very much if we could improve the tone from the standpoint of economic recovery strengthening.

Finally, I have a comment on your comment on inflation targeting. I have argued at this table that, as long as we have a dual mandate, we have to be extremely careful with regard to targeting inflation because then that might impose upon us some more specific unemployment target. I have come to conclude over my now almost six years of experience at this table—which is not much, but it's certainly better than where I started—that the employment mandate is a very slippery political slope. It's also evident to me that there is some shift in sentiment in terms of those that have given us our franchise and given us that mandate, and I think it might be time to think about preparing to shift to a single mandate of inflation and letting the politicians worry about unemployment through fiscal policy. So I welcome the discussion, Charles. I look forward to talking to you about this and giving my ideas to you. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Yellen.

MS. YELLEN. Thank you, Mr. Chairman. I favor alternative B. I'm comfortable with the wording of the first paragraph of B as it stands, but I could support a mild upgrading of the outlook along the lines that President Lockhart suggested. Although incoming data have strengthened my confidence that the risks have become more balanced, my modal outlook has changed very, very little since our last meeting. I continue to anticipate that unemployment will remain undesirably high and inflation undesirably low—below the 2 percent rate that the majority of the Committee has indicated is their preferred inflation objective—for the foreseeable future.

With respect to policy, I'm comfortable for now with our current stance. Optimal policy simulations and rule-based recommendations in Tealbook indicate that economic conditions continue to call for a highly accommodative policy. By the various metrics in Tealbook, we do not have our foot too heavily on the gas. With respect to our LSAP program, I continue to think that the bar for not completing the announced $600 billion of purchases should be high, and that hurdle has not been breached. My reading of the evidence is similar to yours, Mr. Chairman. I think the program has had a modest but positive impact on financial conditions, and it may deserve some credit for diminishing market anxiety about deflation. Fears that the program could cause an outsized decline in the dollar or trigger a rise in inflation expectations have not materialized. We should continue to evaluate the program in light of incoming evidence, but I don't think the proposed change to the last sentence of paragraph 3 is needed or desirable. Any change at all in the wording will arouse market speculation about our intentions, so I would prefer to keep the language identical to December.

With respect to our external communications regarding future policy in the days ahead, I think we should be clear that we recognize the need to withdraw policy stimulus as the economy recovers and that we have the tools and commitment to do so. I see an advantage in emphasizing the Committee's commitment to a specific numerical inflation objective. As the discussion in Tealbook makes clear, a well-understood and credible commitment would provide protection should the timing of our exit—in spite of our best efforts—turn out to be too late. I think markets are aware of the Committee's inflation goals, but it could be advantageous to strengthen this commitment by making it explicit, as in alternative C. Clearly, we would need to lay the groundwork before adopting a numerical objective, but I support the efforts of President Plosser on this initiative, and I think this could be a good time to make progress on a longstanding communications goal.

CHAIRMAN BERNANKE. Thank you. Governor Warsh.

MR. WARSH. Thank you, Mr. Chairman. President Bullard said that he hoped there was no such thing as QE3. I don't think I heard that the way he intended it, but it did pique my interest. [Laughter] Not to re-litigate old battles here—I suspect many of us have not changed our ex ante views in light of incoming information—but my sense is that we would not be the first in Washington to declare a highly debatable policy an enviable success and end it in due course.

On what basis could we say it was a success? We could, I think rightly, look at the change in the deflation risks and—much more so than any great successes on financial markets or employment or GDP—take perhaps more credit for the change in inflation risks between the time we announced the program and the time that we pivoted away from it. So I think that is the way we hope that the $600 billion program is "successfully" accomplished, and we move on. The name of the game strikes me as always having been about what's next. It was rarely a question of whether we were going to do what we said we were going to do. I think we are going to live up to our word and do the $600 billion, but the markets are still questioning what happens next. In light of that, Mr. Chairman, I favor alternative B.

Regarding the language in paragraph 1, let me start by saying that I think President Kocherlakota described a sequencing we all had in mind some time ago as we were provisionally thinking about exit. Perhaps at the March meeting, or at a meeting thereafter, we might want to describe the pivot in a way that markets could come to understand without adding unnecessary uncertainty. One way to do this is to make the first paragraph quite a bit more upbeat than paragraph 1 in alternative B, even if the rest of the language in the statement were exactly as it is now. That would, I think, be a very useful way to signal to markets that we have with some conviction changed our view to the upside on the status of growth, and would make them aware that there is a very serious debate about policy going forward. So with that chess move in front of us, it strikes me, frankly, that alternative B as written might be a little more cautious than current market expectations. Markets seem to be more enamored with the recent economic data than I sense that this group is. If we left the first paragraph of B as it is now and the data come in on the upside, as we would hope between now and March, that might give us a very nice way to describe in some careful, methodical way our change in views. Partly for that reason, and partly because I think the consensus in this room is closer to paragraph 1 in B than in C, I'd favor B as it is now with a view towards exit and next steps.

On paragraph 3, Mr. Chairman, I think staff has now rewritten this $80 billion per month in a way such that it shows that the $80 billion is the arithmetic that comes out of the steady commitment to do $600 billion. So I'm certainly open to the suggestion of President Fisher to end the sentence at "2011," but if New York and Brian and the guys feel that the per month basis is the way in which they've communicated it and they'd rather that communication come from us than the New York Desk, I think we've at least mitigated the risk that they overread what the $80 billion per month is. To the extent we do add that new red language with $80 billion per month, I think that's additional impetus not to change another word in paragraph 3. So I prefer the bracketed language to the new language therein. I support alternative B with those suggestions.

CHAIRMAN BERNANKE. Thank you. Governor Duke.

MS. DUKE. Thank you, Mr. Chairman. I favor alternative B. The outlook looks a little brighter than it did the last time we met, and most around this table seem a bit more confident. Indeed, most of my conversations with bankers started with comments like, "Things look a little bit better," and "people have a little more spring in their step." So there does seem to be a little more optimism.

On the question about reserves, I've been paying a lot of attention not only to changes in our balance sheet, but also to changes in the aggregate balance sheet of banks, and I've been trying to think about what that might cause banks to do. My conclusion right now is that reserves are unlikely to affect either the price and availability of credit, or financial conditions, or even the economy, unless there's a significant change in either loan demand or deposit supply. Right now there is just so much liquidity that I don't think the change in reserves is having much effect, so I'm not concerned about that at the moment.

At the same time, the market seems pretty convinced that we're going to purchase the full $600 billion in Treasuries, no more and no less. So with all of the potential uncertainty in the outlook—whether it comes from house prices or commercial real estate or state and local governments or potential spillover from peripheral Europe—it makes no sense for us to tinker with the one thing about which there seems to be a little certainty.

Turning to the language, I want to make sure that we don't send a signal that we don't intend to send—and I didn't get the feeling that anybody around the table wanted to send such a signal. Regarding the first paragraph, I could live with the version from alternative B or C, and I'm not sure which one I would vote for if you forced us to choose one or the other. In paragraph 3, I have a strong preference for stopping the sentence at "second quarter of 2011" and leaving out the discussion about the pace of purchases forever. The reason is that I think if we've given the total amount and we've given the time, then that calculation is left to anybody to figure out, whereas now we're in a position of having to change from $75 billion to $80 billion, which might give the impression that we're doing some tinkering and fine-tuning. I think it points up the risk of having both the pace and the total amount in the statement. But if we're going to have an amount in the statement, I think it has to be the right amount. I don't think it makes sense to have an amount that we know to be incorrect.

For all of the same reasons, I would go back to the original language and would not use "continued its practice of." The change in tense is not conveying any important information that I can see, and it might give people the erroneous impression that we're intending to signal that we're having more of a conditional discussion than we actually are.

On the inflation target language, the problem I have with inserting that, first of all, is that I think it would be interpreted as much as a political statement about this whole discussion about our dual mandate as it would be any statement of our intentions. Inserting ourselves into that question about our mandate seems to me to raise all kinds of questions about independence. I think we have the right to independence about how we get to our mandate, but we don't really have independence as to what our objectives are, so I'd be very uncomfortable about putting it in there. Also, if we're going to put a number on inflation and we have the dual mandate, it seems to argue for a number on unemployment, and in fact, I had the "2 percent or a little less" in a speech in January, and the very first question I got from the audience was, "Well, if that's your number for inflation, what's your number for unemployment?" And I think that's a little difficult.

Finally, I'm still not certain that we can agree on what that number is, even if we decided to put the number in the statement. Those are my comments. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. This is easy. I associate myself with Kevin on everything he said about the language in alternative B. I associate myself with Betsy on everything she said about inflation targeting. Thank you.

MR. KOCHERLAKOTA. You beat Eric. [Laughter]

CHAIRMAN BERNANKE. Trying to make yourself redundant, Governor? [Laughter] Governor Raskin.

MS. RASKIN. Thank you, Mr. Chairman. I, too, support the action described in alternative B and the statement in alternative B which reaffirms the intended increase in securities holdings and the pace of purchases that the Committee first announced in November. The economic recovery is, in fact, continuing. The growth in household spending picked up late last year, and business spending on equipment and software is rising. However, housing and labor markets remain weak, and the action described in alternative B, I believe, reflects that. The actions and language of alternative B should reinforce investor confidence that the economic recovery is proceeding and that employment and inflation are evolving in a manner consistent with a gradual return to levels more consistent with the Committee's dual mandate.

Adjustments to the program should not be made at this time. The adverse consequences of unexpectedly discontinuing or reducing the current program would be unsettling to business and household confidence, and, given challenges in communicating, such a change would require great care. In addition, there are significant benefits to waiting for additional information pertaining to the strength of the recovery and likely trajectory of inflation before deciding to make an adjustment to the stance of monetary policy.

I also want to weigh in on the debate regarding the inclusion of the $80 billion. President Lockhart stated it in the negative, seeing no reason not to include the language. I think President Fisher has also raised some good points regarding the precedent it sets of always having to communicate in terms of what the monthly pace would be. I just want to insert a somewhat different perspective on that language. As the communications experts know best, there are several audiences listening and critiquing the performance of this Committee, and these audiences include financial participants on Wall Street as well as business participants on Main Street. They include politicians of all ambitions. In my case they include a neighbor who continues to corner me in the express lane at the grocery store right when I'm pinned in between the tabloids and the gum, asking for clarification. [Laughter]

I think we learned from the communications around the LSAP program that some of these audiences can only hold one number in their heads at a time. That number, I think, currently is $600 billion. So another perspective on this debate is that if we inject another number, in this case the number is $80 billion, to certain audiences it could appear to be something new, something that was recently decided, something that could be misinterpreted as a fresh round of money printing. That is not at all what is intended, and that is not at all what has occurred or been decided at this meeting. So, at the very least, I think putting in that number could encourage some kind of speculation about why the quantity of purchases implies a pace of $80 billion rather than $75 billion, and, given that this Committee has not made any change in the course of the LSAP program, we may need to consider whether the $80 billion figure will signal some kind of fine-tuning or something that we have not, in fact, decided. Thank you.

CHAIRMAN BERNANKE. Vice Chair.

VICE CHAIRMAN DUDLEY. Thank you, Mr. Chairman. I favor alternative B. In terms of language, I think it's okay to be a little cautious in terms of upgrading our economic outlook, as Governor Warsh suggested; if the news comes in good, then we can upgrade the outlook in the future, and I don't see any reason to race ahead right now.

In terms of the rest of the language in B, I think we should make the fewest changes possible. I don't see any reason to disturb the expectations that the market has that we're likely to do $600 billion of large-scale asset purchases. So I would not include the language about the $80 billion. I just think that adds complication and detail that's not really necessary, and I don't think Brian thinks that's necessary or helpful.

MR. SACK. The Desk wasn't advocating putting $80 billion in the statement. We've already moved to a purchase pace of $80 billion, and we've explained in our FAQs how to reconcile that with the FOMC statement. I don't think it has caused any confusion among market participants.

VICE CHAIRMAN DUDLEY. And as far as the language about “will” or “continued,” I think it’s just better to leave well enough alone. I just think there’s no reason for change. If we make the change, people are going to be confused about why we’re making the change. If the meaning is almost the same, what’s the point of making that small adjustment?

In general, I just want to add two other thoughts. I think we are a little bit at risk of getting ahead of ourselves here in the whole discussion about where we’re going. If I remember correctly, there was a lot of excitement last winter about improvement in the economic outlook, and we shifted our focus away from other means we could take to make monetary policy more accommodative and shifted it toward exit, and that turned out to be premature. So I think we have to remember that we haven’t gotten that much good data for that long. We’re very far away from full employment, so I think a little bit of patience is appropriate.

I think that’s also important in terms of our communications because we don’t want to give people the sense that we’re itching to exit just for the sake of exiting. If we were to do that, it would cause people to tighten financial conditions, and that could actually potentially harm the economic growth outlook. Obviously, if the inflation news turns worse, and if the economy is growing very robustly, then, of course, it’s appropriate to change. But I think it’s very important not to get ahead of ourselves; we actually need to see economic information that warrants a change in policy.

Finally, let me thank the staff for all their efforts preparing the material on the SOMA net income and the different environments for interest rates and the asset sale program. I thought that was very useful for understanding the risks. But I would emphasize that I consider these issues very secondary to the policy objectives of achieving our dual mandate. In fact, I’d be quite happy if we had a very strong and sustained expansion that led us to tighten monetary policy and that resulted in a sharp decline in our net interest income. In that case we'd obviously be a lot closer to achieving our dual mandate, but also the revenue-generating effects of a strong recovery would almost certainly overwhelm the effect of a drop in Federal Reserve remittances to the Treasury. The goal here is not to maximize the Federal Reserve's remittances to the Treasury.

CHAIRMAN BERNANKE. Thank you very much. Again, a good discussion.

The economy is kind of like an ocean liner, which does take a while to move, and I think we have to be patient. We are seeing signs of sustainable recovery, but they are still somewhat nascent; in particular, we haven't seen any strong employment reports yet. So I would advocate maintaining the status quo. I do believe the policy has been helpful. We can differ on exactly how much and in what way, but I do think it has been supportive of the recovery. So I recommend alternative B.

There was some discussion about strengthening paragraph 1 in B to make it like paragraph 1 in C. I can make a quick proposal. There are two differences between these two paragraphs. One is that the paragraph in C strikes out the things that are constraining consumption growth, and the other is that the paragraph in C basically says business investment is rising and drops out the nonresidential part. One proposal is the following, given that I think all the things that are affecting household spending are still relevant: Where it says "business spending on equipment and software is rising," insert a comma and then say, "though employers remain reluctant to add to payrolls." That drops a negative sentence, and that's pretty consistent with the suggestion from President Fisher, for example, about firms investing in order to improve productivity rather than to improve employment.

MR. FISHER. So the sentence would take out “while investment in nonresidential structures is still weak”?

CHAIRMAN BERNANKE. Yes.

MR. LACKER. It makes it seem that the category of nonresidential structures is what has improved.

VICE CHAIRMAN DUDLEY. It’s a little weird to take it out, given that it’s still very weak and that it was in the last statement.

CHAIRMAN BERNANKE. Well, C says, “business investment is rising.” Do you think that’s more accurate?

VICE CHAIRMAN DUDLEY. No, but I’m saying that in the December statement we had, “while investment in nonresidential structures continues to be weak.” To take that out implies that somehow that’s no longer the case. And that hasn’t changed.

CHAIRMAN BERNANKE. Well, we had some indication that it was bottoming out. We do change the emphasis periodically. Does anyone have a view on this? Governor Tarullo.

MR. TARULLO. Mr. Chairman, it’s the one thing, though, that hasn’t really changed. That’s where I think there’s a bit of dissonance. If you think it’s a good idea to up the optimism level a bit, I think a lot of people around the table would be open to suggestions, but I’m not sure that one does it.

CHAIRMAN BERNANKE. Well, do we believe business investment is rising?

PARTICIPANTS. Yes.

CHAIRMAN BERNANKE. Are we okay with that? How about “business investment is rising, though employers remain reluctant to add to payrolls”? We look to the Research and Statistics staff.

MR. STOCKTON. It's true.

MR. REIFSCHNEIDER. I don't know if it accomplishes what you want, but it's true.

MS. YELLEN. That still gets rid of the nonresidential portion.

CHAIRMAN BERNANKE. Right.

VICE CHAIRMAN DUDLEY. Another option is to change the phrase "the economic recovery is continuing." Instead, we could say something like "the economic recovery has strengthened somewhat."

CHAIRMAN BERNANKE. Okay. I'm willing to do that. The only objection I had was that it would say "the economic recovery has strengthened, though at a rate…" We're confusing derivatives here. It's as if it's strengthening but not strengthening fast enough.

VICE CHAIRMAN DUDLEY. No, you could just say "and the growth rate is still not sufficient…"

CHAIRMAN BERNANKE. Okay.

MR. FISHER. Yes, you could say it "strengthened, though the growth rate has …." That was one of my suggestions.

CHAIRMAN BERNANKE. All right.

MR. LACKER. Though it is still insufficient.

CHAIRMAN BERNANKE. Okay. Are we okay with "has strengthened"?

VICE CHAIRMAN DUDLEY. I would say "has strengthened somewhat."

MR. FISHER. It has either strengthened or it hasn't strengthened. But the Chairman had an interesting suggestion. Could you repeat your suggestion, please, Mr. Chairman?

CHAIRMAN BERNANKE. "…has strengthened, though the rate of economic growth has been insufficient to bring down…"

MR. FISHER. I think that's a fair statement.

VICE CHAIRMAN DUDLEY. It is just a question of where you want to put it on the dial.

MR. STOCKTON. I have one small thing. We'll get the first reading on fourth-quarter GDP later this week. We've written down 3.8, which is stronger than 2.6 percent, but the confidence interval around that number is really big. And this current-quarter estimate of 3.8 is based on a 3½ percentage point contribution from net exports offset by a minus 3 percentage point contribution from inventories, both of which are poorly measured and subject to considerable uncertainty. So while our reading of the economy is that things have strengthened, I just wanted to make clear that it's not as if that number is written in stone at this point.

VICE CHAIRMAN DUDLEY. You could say "appears to have strengthened."

CHAIRMAN BERNANKE. All right. May I ask indulgence to leave paragraph 1 in B as it is for now and to save changes in our text for next time? I'd like to leave that paragraph as it is, if that's okay, with the understanding that we will overcompensate in March.

MR. TARULLO. Kevin's strategy.

VICE CHAIRMAN DUDLEY. That was Governor Warsh's strategy.

MR. KOCHERLAKOTA. As long as we can use the word "rocking" in March, that will be fine. [Laughter]

MR. TARULLO. But in which paragraph, Narayana?

MR. PLOSSER. Mr. Chairman?

CHAIRMAN BERNANKE. Yes.

MR.PLOSSER. One way to address this is to make sure that the discussion in the minutes gives a little more positive sense.

MR. FISHER. There was a more positive sense at the table.

CHAIRMAN BERNANKE. My summary of the discussion begins, “The tenor of the incoming data has increased most participants’ confidence that a moderate recovery is under way and will continue.”

VICE CHAIRMAN DUDLEY. That’s a good summary of it.

CHAIRMAN BERNANKE. All right.

MR. LACKER. That’s rocking. [Laughter]

CHAIRMAN BERNANKE. I gave it a try. I did consider the “strengthening” phrase at the end of paragraph 2. But, if you’ll notice, that creates a zigzag sentence where we’re happy, but we’re sad, but we’re happy. [Laughter] In paragraph 3, I’ve heard very different advice on the $80 billion. I’m hearing from New York, though, that you think this is worse for markets rather than better for markets.

MR. SACK. I just think it’s not necessary.

CHAIRMAN BERNANKE. The advantage of putting it in is that this is a parameter that we can move at some point if we were to change the pace while keeping the total.

VICE CHAIRMAN DUDLEY. I think it’s highly unlikely, though, that we would want to do that.

CHAIRMAN BERNANKE. President Bullard.

MR. BULLARD. Let me give an impassioned speech for keeping it in.

CHAIRMAN BERNANKE. Take it as read. [Laughter] All right, I take full responsibility for leaving it in. I realize there’s a slight risk there, but there’s also a risk to dropping it. It’s something that we could, in fact, vary if we taper or if we change the pace. Let’s leave the next sentence as it was last time, and let’s drop the other change. The only change in the statement, therefore, is to add the phrase about the pace of $80 billion. Everything else is as written. Okay? Any other comments?

MS. SMITH. Can I just make a comment?

CHAIRMAN BERNANKE. Yes.

MS. SMITH. From a communications perspective, I really think that's a mistake.

CHAIRMAN BERNANKE. The $80 billion?

MS. SMITH. Yes.

CHAIRMAN BERNANKE. All right, explain why.

MS. SMITH. I think we've taught market participants to take every word of this statement seriously. And I think it conveys a policy judgment that you all didn't make. So I'm comfortable that what is on the New York Fed website, as explained to me, has made this point. I'm afraid that if you do this, it's hard for us to explain that it really doesn't mean much, particularly if you want to use it later to fine-tune: Now this signifies nothing, but later it may signify something important. So I think you want to hold that in reserve until you are really communicating something important.

CHAIRMAN BERNANKE. Did she convince you, President Bullard?

MR. BULLARD. I feel very strongly that this $600 billion number really hurt us, because it put us in the same category as a lot of others' policy actions, and it got us away from the idea that this is ordinary monetary policy. And I think the pace of purchases gets closer to saying it's ordinary monetary policy.

I'm a little miffed that we're not at $75 billion. It's up to the Desk to keep us at $75 billion—I know there are technical factors involved. I would very much like to keep it in. And I saw the fact that we had the pace of purchases and the total amount as a compromise, and now we'd be pulling back from that, in my view.

CHAIRMAN BERNANKE. No, I agree. President Fisher.

MR. FISHER. I feel equally passionately. [Laughter] So let us cancel each other out. I would suggest that we listen to the good advice that Michelle just gave, because I think she is right.

CHAIRMAN BERNANKE. All right. I am going to take a straw vote, so I can share the responsibility. [Laughter]

MR. KOCHERLAKOTA. I wasn't sure what Michelle's advice was.

CHAIRMAN BERNANKE. Her advice was to drop the $80 billion.

MR. KOCHERLAKOTA. And to stop at "the end of the second quarter of 2011"?

CHAIRMAN BERNANKE. Yes. All in favor of not having the $80 billion? I count ten. All in favor of including the $80 billion? Okay, we'll drop it. President Bullard, your concern is noted, and we'll take measures to try to make sure that all of the dimensions of our policy are reflected in our discussions. Brian.

MR. SACK. I just wanted to make it clear that the reason we're in this situation is not that we haven't been keeping pace. It's because the program didn't start on November 1, but the "about $75" was calculated as if it did start November 1.

CHAIRMAN BERNANKE. We should have figured that out.

MR. SACK. We thought "about" gave us enough flexibility.

CHAIRMAN BERNANKE. Okay. Debbie.

MS. DANKER. This vote will encompass alternative B and the directive for alternative B from the packet. I am going to read paragraph 3, just to make sure I've got it right, and we all know what we are voting on.

Paragraph 3: "To promote a stronger pace of economic recovery and to help ensure that inflation, over time, is at levels consistent with its mandate, the Committee decided today to continue expanding its holdings of securities as announced in November. In particular, the Committee is maintaining its existing policy of reinvesting principal payments from its securities holdings and intends to purchase $600 billion of longer-term Treasury securities by the end of the second quarter of 2011. The Committee will regularly review the pace of its securities purchases and the overall size of the asset-purchase program in light of incoming information and will adjust the program as needed to best foster maximum employment and price stability."

Chairman Bernanke	Yes
Vice Chairman Dudley	Yes
Governor Duke	Yes
President Evans	Yes
President Fisher	Yes
President Kocherlakota	Yes
President Plosser	Yes
Governor Raskin	Yes
Governor Tarullo	Yes
Governor Warsh	Yes
Governor Yellen	Yes

CHAIRMAN BERNANKE. Thank you very much. We have one more item, which is the communications issue. We can try to do that now, or we can have a 20-minute lunch break. Is there a preference? People have flights?

VICE CHAIRMAN DUDLEY. How about during lunch?

CHAIRMAN BERNANKE. We can do it during lunch, I suppose. It's only a question of speaking loudly, okay?

MS. DANKER. And keeping all—

CHAIRMAN BERNANKE. —the food away from the microphones. All right, why don't we break for lunch? We'll return here, and we'll immediately go into this last item of discussion.

[Break]

CHAIRMAN BERNANKE. Let's recommence the meeting, please. Thank you. I see Charlie coming, so we will just go ahead and get started. The last item is on communication, and I want to thank the communications subcommittee for the work they have done and the ongoing discussions they have had. So let me turn it over now to Janet.

MS. YELLEN. Thank you, Mr. Chairman. I would like to begin by thanking Governor Duke and Presidents Fisher and Rosengren for serving with me on the subcommittee. And I want to thank all of you for the very helpful input that you have given us so far.

As you may recall, the Chairman gave our subcommittee a three-part charge. He asked us first to assure appropriate treatment of confidential FOMC information, including our contacts with the press; second, we were to develop policies to avoid the perception that individuals outside of the Federal Reserve System are able to gain inappropriate access to FOMC information that could be valuable in forecasting monetary policy; and, third, we were to develop policies to ensure that the public communications of FOMC participants do not undermine the Committee's decisionmaking process or the effectiveness of monetary policy.

After consultation with many of you, the subcommittee thought that the best way to accomplish the first objective was to strengthen the Program for Security of FOMC Information by adding an explicit enforcement procedure, and yesterday afternoon you voted on an amendment designed to accomplish that. So I consider that aspect of our work complete.

To make progress on the remaining two charges, we thought it would be sensible to take them up sequentially. Today we are particularly seeking your thoughts on how to address the second charge. What policies should the Committee put in place to avoid perceptions that individuals outside the Federal Reserve System are able to gain inappropriate access to valuable FOMC information? We'd like to hear your thoughts on this topic, and our hope is that we can return soon, potentially in March, with a revised proposal, and then return to the third question for discussion.

We circulated a set of questions that you should have in front of you to guide discussion, and we'd like to have a full go-round of the Committee to hear your views. We ask you to address three questions. The first pertains to access. Should there be limitations on access between FOMC participants and individuals or firms that stand to gain financially? And, if so, where would you draw the line? The second question pertains to content. Should there be limitations on the content of meetings and conversations, if access is permitted? And, third, if limitations on access and/or content are desirable, should we establish a formal policy concerning these matters, or simply develop some informal guidelines?

On that issue, you may recall that, in our memo to you dated January 6, our subcommittee suggested that contacts with financially interested outsiders should, at least in our view, be addressed by a formal policy. We're concerned that any perception, whether it's based in fact or not, that financially interested outsiders have inappropriate access to FOMC members or information creates severe reputational risks for the Federal Reserve. Our subcommittee thought it important for the Committee to have in place a formal policy, the important thing being that it would be binding on all FOMC participants and not just a guideline that's voluntary. It would state, in effect, that it is not acceptable for FOMC participants to convey information—

whether it's covered by the Program for Security of FOMC Information or whether it's outside of that program—that would be likely to confer financial advantage on particular private consultants and businesses.

In contrast, we proposed in our subcommittee memo to you that other matters should be addressed by informal guidelines, matters such as the blackout period, guidelines about staking out firm positions, and so forth. But we're seeking your input and reaction on this question today, so the third question to you is: Do you agree with our subcommittee that we need a formal policy on this? Let me stop there and begin the go-round.

CHAIRMAN BERNANKE. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. I want to thank the subcommittee for their work on this. I tend to agree with what Governor Yellen has said. Given the kinds of risks that are involved for the Federal Reserve System in this matter, I think a formal policy is something that we should be thinking about. I have to admit, though, that, since I have not engaged in any of this kind of activity myself, I'm not sure exactly what the formal policy should consist of. Certainly, in considering the issue of potential limitations on content, the point that says, "You should not be characterizing deliberations at FOMC meetings," seems clear enough to me. I think it's reasonable to consider having another staff person at these meetings, which seems like a good check. Beyond that, I guess I'm willing to be led by others' judgments.

CHAIRMAN BERNANKE. President Hoenig.

MR. HOENIG. Thank you, Mr. Chairman. And thanks to the subcommittee—I really do appreciate the work you've done on this. When these questions were circulated, it triggered my memory, so I went back and looked at FRAM, and I think it may have the essence of what we need. It's a matter of what you want to formalize, because right now these are voluntary guidelines. In paragraph 5 of FRAM it says senior officials "should strictly preserve the confidentiality of System information that, if revealed, could benefit any person or impair the effectiveness of System operations and policies." I think formalizing that would put us all on notice. The next one involves considering invitations to speak at meetings sponsored by profit-making organizations. "Such officials should carefully weigh the public benefits likely to be derived…against the possibility that their participation might afford such organizations a prestige advantage over competitors." I think that's a good guideline for us to continue to follow. Paragraph 7 says, "In public speeches and relations with news media, senior officials should be particularly mindful of"—and I will shorten this part to "conflicts"—"and, in addition, should avoid statements that might suggest the nature of any monetary policy action that has not been officially disclosed or that might confuse or mislead the public with respect to the monetary or other policies of the System." And the last paragraph I will mention is senior officials "should feel free to express their personal views concerning questions of System or public interest, but they should carefully consider whether their remarks might create public misunderstanding of the System's actions, or impair the effective formulation and implementation of System policies or lessen the prestige of the System."

So we have much of what we were talking about, and it's a matter of formalizing the voluntary guidelines. I would be in favor of formalizing them first.

Another issue is whether we make this public, so that everyone knows we're on notice. I think this is something we ought to consider, because then it not only puts us on notice, but it also puts them on notice. I think that pretty much reflects my comments relative to the questions. Thank you.

CHAIRMAN BERNANKE. President Rosengren.

MR. ROSENGREN. I am on the subcommittee and I asked to go towards the end, and number 3 was towards the end. [Laughter] The subcommittee had to wrestle with wanting to make sure that there wasn't undue access that provided the appearance of financial gain, and trading that off against the need to understand developments in the economy and financial markets. So it's really important to find the right balance. I would highlight that, to the extent that we formalize things, the rules have to be clear and enforceable.

Let me start with the second issue, which refers to the potential limitations. I actually do think that FOMC meetings should be kept confidential other than what's in the minutes, which provide the public recounting, so that we basically shouldn't be talking about these meetings to anybody in public or in private.

In terms of meetings with individual financial market participants, I have already instituted the practice of having somebody else in the room with me. It can be the head of our supervision division, the head of the research division, or a communications officer, and the reason is to make sure that absolutely nothing is being conveyed that's not already in the public domain. And I have become much more careful about footnoting speeches that I've previously given to make it clear that it is already in the public domain, so that nothing being conveyed in our discussion is different from what has already been said publicly either by me or provided in the FOMC minutes. I think those are all important things to think about. I am in favor of them. I've already implemented them.

In terms of the limitations to access, I do think some of it's the frequency. If the same person who potentially is closely monitoring the Fed is regularly meeting with you, even if nothing is conveyed during those meetings, I think the appearance of very, very regular meetings potentially is a problem. So I've also changed my practice in that respect—even with somebody else in the room, I have tried to make sure that I don't meet with the kind of regularity that would in any way provide an appearance of undue access to any one individual or organization.

In terms of centralized reporting, I think that could become very cumbersome. I'm actually not opposed to it, but I have talked to some others who are less comfortable with it. The one area where it might be useful to report press contacts centrally is if it's only to one individual news organization, or one individual reporter, just so that, if there is a leak, there will already be a record within the organization that highlights whom you talk to and when. I wouldn't expect that it would be necessary, but it would provide a way to make sure we could quickly refer to people's logs and know who talked to what reporter when.

In terms of interactions at conferences, I don't think we want to limit that. I think it is important to have social interactions. And when it is in a group setting or when press is there, it is very unlikely to result in a problem. So I think that either at conferences or when media are present, then I wouldn't really be too concerned about who else is in the room. And I certainly think that we should not speak to forums where there are only clients of an individual firm. That definitely gives an appearance that you are giving financial gain to one organization. So there have to be multiple organizations before I would be willing to do that.

CHAIRMAN BERNANKE. Governor Tarullo.

MR. TARULLO. Can I just ask Eric to clarify something? Did I draw the correct inference that you regard this as governing discussions with members of the general media, as well as people whose purpose is to generate direct or indirect trading profits from predicting monetary policy actions?

MR. ROSENGREN. I think the questions were focused on the individuals that can directly get financial gain, but I think that we should think about how it should apply potentially to reporters as well. That's my own personal view.

MR. TARULLO. Could you explain that? My assumption had been that the reason we were not including talking to reporters here is because we had a shared view that whenever the reporter used whatever he or she got, it was immediately available to the world on the web. But maybe I'm missing something.

MR. ROSENGREN. No. In terms of financial gain, if I only talk to one *Wall Street Journal* reporter every other month, and I didn't talk to a *New York Times* reporter or a Fox News reporter or a Bloomberg reporter, I think that would give an appearance of supporting one news organization over other news organizations. So I do think that we have to be careful, to some degree, to spread our access to the press around, just as we spread our access to potentially interested financial parties around. But that's my own personal view.

MR. TARULLO. Thanks.

CHAIRMAN BERNANKE. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman, and thanks to the subcommittee for doing all of the fine work on this. I have to agree with President Hoenig. My experience being around the Fed was that I thought we were already doing most of this, and I thought there was a code. So maybe it's a matter of reviewing that code.

I'm going to make some general comments that may go in a different direction. My view is that our discussions of communication tend to be very negative and very risk averse—in fact, I would say they exhibit extreme forms of risk aversion. There is too much worry that something might be said to someone that might be inappropriate—and certainly we need to worry about that—but that should not be the primary concern of our communication policy. Our communication policy should be a positive statement of what we are trying to accomplish with communications, and we should think in terms of broad strategic communication policy from this Committee. Ideally, I would go so far as to adopt metrics about whether or not we are accomplishing our goals through our communication policy. I think the general judgment over the last three years is probably that we are not accomplishing what we want to accomplish as a Committee.

My feeling is that our existing strategy has too often allowed others to define the Fed and to define this Committee, and we need to have strategies and ideas about how to get our ideas out there. To put everything in a narrow framework about whether somebody will make a misstep at some point is not helping that. I think that, because we have this view, and it is a longstanding view around the Fed, it has allowed public relations problems and misinformation to fester, and I am very worried that this might do lasting damage to the institution.

I do not think that rules can be written that encompass every situation in which we might find ourselves, and I also think that anyone we talk to, in principle, could profit from anything that we say. So I don't think you can have a prescriptive thing that maps out every single situation. I don't think that's a good way to go.

One general policy would be to convey the same messages in all forums and never reveal confidential information about what is going on in the Committee itself. I think pretty much everybody adheres to that. In general, I think that active engagement with all audiences should be encouraged. That should be something that we are trying to do and trying to get done. By "all audiences," I mean financial markets, business leaders, the general public, and, in fact, I would greatly expand our contacts. I would try to think about whether we're doing enough and whether we’re communicating with certain audiences. Obviously, we’re missing certain groups of people, and they’re going off and developing their own ideas about what we’re about and what we’re doing. To put limits on that is going to impair our ability to get messages across and may damage the institution.

So I would prefer a positive statement that emphasizes engagement with all audiences. We certainly do not want people to profit from what we’re doing, but, in some sense, any time you utter a word, I suppose somebody can trade on it. I would, however, dispute the claim that you can trade successfully on very much of what anybody says around here—I certainly think not, but maybe people think that they can. We’re giving our own views about where we think policy should go, but each of us is just one voice on a big Committee. Certainly, the Chairman is different. The Chairman has a huge megaphone, but the Chairman’s interactions are more prescribed, probably, than are those of the rest of us.

Also, many of us talk to a variety of councils that come into the Banks. Are we going to say that that guy on the council might turn around and profit? I think this is just a very difficult thing. So you have to follow this code where you say, “I’m giving you my own positions.” I say the same things all the time. I have the same messages all the time. And I’m happy to try to communicate those messages. But I don’t think that you can prescribe that such-and-such situation is out of bounds.

MS. YELLEN. Could I just ask a follow-up question?

CHAIRMAN BERNANKE. Sure.

MS. YELLEN. Do you think it would be okay to talk to the clients of a financial firm behind closed doors about your personal views on monetary policy?

MR. BULLARD. Well, like everything else, I think it’s a judgment that has to be made.

MS. YELLEN. They could be benefitting.

MR. BULLARD. It's possible that the audience is so large—I did one that was 400 people, and it was basically the whole financial community in the town.

MS. YELLEN. Well, suppose the sponsor is a financial firm, and the firm has arranged a conference for clients, and you're asked to be the speaker.

MR. BULLARD. In that case, you could insist that members of the public be allowed. Or, if media are there, then your comments are going to get reported anyway. Also, we put our speeches and the Q&A on the web after the event. So, given that, are you imparting special information to a select group? I don't really think so. Are you giving the same messages you always give? Do you want to communicate with this group? Yes, you probably want to get certain messages across to this group.

MS. YELLEN. Okay.

MR. EVANS. Jim has got a good point. I'm not quite sure how to define this. There must be financial industry councils that the New York Fed or other Reserve Banks have, and you talk to them, maybe with more Fed people there. But if it's not open to the public, I'm not quite sure exactly how that's different from the private meeting with a financial firm's clients. I think a little more definition of the examples that we're contemplating would be very, very helpful.

MS. YELLEN. An example is that Merrill Lynch asks you to come to a client conference where you will be the main speaker.

MR. EVANS. I've never done that, but I think there are probably some examples that we all have shared where there might have been a dinner that felt a little uncomfortable.

MS. YELLEN. I know exactly what you're talking about, and I would regard that, after having contemplated it, as something we absolutely shouldn't do.

MR. PLOSSER. But suppose it was a conference and, as Jim said, there were 300 or 400 people there, and the press was there. Would it matter? If the press was there, which essentially makes it public, you would probably write your speech for that conference just as you would write any other speech.

MR. FISHER. But imagine this news article: "Charles Plosser met today with selected clients of Goldman Sachs and said the following."

MR. PLOSSER. I'm asking a question. I wasn't trying to propose an answer.

MR. FISHER. You asked for an example. It seems to me that the optics there would not be good.

MR. BULLARD. Okay, but we do something much worse than that—we meet with Goldman Sachs in private right now.

MR. FISHER. I don't.

MR. BULLARD. I think we do.

MR. EVANS. Well, what about talking to 30 CEOs before every FOMC meeting?

MR. FISHER. I'll tell you how I do that, because that's important. The ground rules are that I will impart no information, and I will only listen.

MR. EVANS. Oh, you don't have a conversation with them?

MR. FISHER. And they're not financial firms. I do not impart a thing, including my own views.

MR. EVANS. Well, you could talk to financial firms, too.

MR. FISHER. And if Toys R Us can make a profit off of my interaction, that would be something. But we have very strict rules.

CHAIRMAN BERNANKE. Okay. President Lockhart, would you like to enter into the conversation?

MR. FISHER. I do think, though, that we have to think about the optics here as well.

MR. LOCKHART. First, let me say thanks to Tom for pointing out FRAM—I think it's a good foundation. Over and above that, I really favor an informal set of guidelines and principles that puts the emphasis on exercising good judgment and taking perhaps greater care going forward. I think strict limitations on contacts who might—I emphasize the conditional—generate trading or positioning profits is unworkably broad and, certainly, in my case, might interfere with the usefulness of many contacts. Likewise, defining a strict frequency limit or rule, I think, goes too far.

I don't favor centralized reporting, but I do think it's reasonable to assume that each participant will maintain a record of meetings and contacts. And I do favor some tightening of elements of the guidelines. For example, meetings with most parties, and certainly those with the press, should include, if possible, a public information officer as an associate or someone from the research department—a witness, if you will. I think events in which businesses, clients, and prospects are the exclusive invitees, should be avoided or discouraged, even if the media are present, because I don't think that changes the appearance of privileged access.

I think participants should refrain from characterizing FOMC deliberations before the publication of the minutes, and then, after the minutes are out, they should characterize FOMC meetings in a manner consistent with the minutes. And, of course, I think we all agree that we should adhere to a defined blackout period. That's something I think should be strictly defined.

On the question of expressing personal views on monetary policy that have not been stated publicly, again, I think this goes a little too far and should be left to judgment. I accept the spirit of this guideline, because it does suggest privileged access to insider views.

And, finally, if guidelines and principles are adopted by this group, I think they should be made public.

CHAIRMAN BERNANKE. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. My views are a lot like Jim's. I think part of what makes policy good is transparency, and the more transparent we can be, the better off we would be in general. Policies that are controlling can backfire on us. Tom's point about FRAM indicates that there are already guidelines in place about what we should and shouldn't do. I don't think we can legislate good judgment here.

I would note that this mostly refers to FOMC participants, not staff, whereas the guidelines in FRAM suggest senior officials—

MS. YELLEN. It's our intention to develop corresponding guidelines.

MR. PLOSSER. I'm not accusing anybody, but staff contacts with the private sector and the media can also create these kinds of issues.

MS. YELLEN. We intend to address that.

MR. PLOSSER. I think one of the things that oftentimes gets us into trouble or misunderstood is when we go off the record. My impression is that the Board, for example, gives very few on-the-record interviews, and, instead, the discussion is oftentimes on background.

MR. KOCHERLAKOTA. Charlie, are you talking about contacts with the media at this point?

MR. PLOSSER. I'm talking about the media or some people who are Fed watchers.

MR. KOCHERLAKOTA. Okay.

MR. PLOSSER. My own personal approach is never to say anything to anybody that I wouldn't say publicly or haven't said publicly, for example, in a speech. I think there are lots of gray areas here. I agree that it would not look good for one of us to speak at a Goldman Sachs venue, but, at the same time, all of us, I suspect, have spoken at banking conventions sponsored by a not-for-profit organization, such as the American Bankers Association, but basically the attendees include clients and donors and funders. Is that acceptable, whereas something else may not be? Or what about a university event, where alumni are raising money to support the institution? There are lots of cases where it begins to get a little fuzzy, so I'm leery of trying to legislate that kind of controlling policy.

I want to encourage communication. I want to have more communication, not less, and have more open communication and less behind-the-scenes communication. I think enforcement is going to be really, really difficult, and, again, I think we just can't legislate good judgment. I would prefer that we adopt broader guidelines that apply to everybody and then trust that we will use our best judgment, rather than adopt an attitude where we sow seeds of suspicion by trying to control behavior tightly. That's just my general philosophy.

CHAIRMAN BERNANKE. Thank you. First Vice President Moore.

MR. MOORE. Thank you, Mr. Chairman. I don't have much specific to offer here. I would just make the observation that I think the Federal Reserve System is perceived as being very cozy with the financial sector, and very distant from the general public. And, in that context, I think anything we can do to suggest less coziness with the former and closer proximity to the latter, would serve us well. Thank you.

CHAIRMAN BERNANKE. Thank you. President Pianalto.

MS. PIANALTO. Thank you, Mr. Chairman. I also want to thank the subcommittee for their work on this important issue. As I was developing my answers to the questions, I found myself gravitating to the second issue, which is the potential limitation on content. By limiting what we communicate to information that's already available to the public, we greatly minimize the actual or perceived problems associated with individuals who stand to gain financially from their interactions with us.

There is an analogy in the private sector to this—the SEC's fair disclosure rule. That rule prohibits the selective disclosure of material and non-public information to selected persons, such as securities analysts or institutional investors, before that information is disclosed to the general public. The regulation requires that, when material information is intentionally disclosed, it be disclosed publicly and not selectively. That line of thinking helped me answer some of the questions.

In question 2A in the subcommittee's memo regarding content, I think the strict adherence to the Program for Security of FOMC Information that we approved yesterday is essential. That means not sharing the views of others, or even characterizing the FOMC conversations, and letting the minutes provide the summary.

In question 2B, I also don't think that anyone should have non-public information, even about a Committee member's own views. Our own views would have to be presented publicly before they are given to any individual.

Regarding question 1 on access, I think that FOMC participants should strive, as others have said, to avoid being in situations where it might appear that we're giving confidential information or information that isn't available to others. That means paying close attention to the venues that we select, as we've been discussing, as well as to the frequency of questionable contacts, so that, again, we avoid the appearance of any favoritism.

Finally, regarding whether this should be informal or formal, I agree with Governor Yellen that it should be formal, and I think that sharing it with the public will help us respond to requests and help us explain why we aren't accepting some of the requests. Thank you.

CHAIRMAN BERNANKE. Thank you. President Evans.

MR. EVANS. Thank you, Mr. Chairman. I want to thank the subcommittee for putting in a lot of hard work on a very difficult subject. I did write a fairly detailed response to the subcommittee, so anything that's in that response but that I don't bring up in this discussion still applies. I also appreciate the perspective that Tom brought to bear from FRAM. That accords pretty well with what I would have hoped that we already had in place, so I agree with that.

At times, I've thought that the reason we sometimes see questionable things from Fed staff in the newspaper could be that there is just not sufficient training for all of the staff and that we aren't always very clear about what the security guidelines mean. I know that, for information security and ethics training and so on, we have online guides and even certification exercises, so maybe we could do something like that every year on this issue. At any rate, I think that training could help, and FRAM is already on point on a lot of the issues.

I agree with Jim and Charlie and others in thinking that we need to communicate a lot more. I think we've been undertaking very difficult monetary policies that are hard to explain. During a very difficult period, they're susceptible to being picked apart, fairly and unfairly. We need to make sure we have a policy in place that allows us to go out and explain, as best we all can, what we're trying to accomplish and why it's the right policy. So, if we go down a particular path that ends up putting a lot of restrictions on how we're supposed to talk, and so on, it will work against enhanced communication.

As Charlie Plosser said, it's really hard to legislate good judgment, so we're counting on everybody to use their best judgment. I'm not optimistic that we're going to be very successful if we try to write the guidelines down in a legalistic fashion. I think we need access to the kinds of parties, such as the financial sector, whom we're concerned about. I agree that talking to a closed meeting of financial clients is inappropriate, and we need to be careful about that. But when I talk to people in the financial sector, if I ask the right questions and know what to probe for, I come away with something pretty useful for what we're doing. I don't think it's enough to count on New York and the Board of Governors to have a monopoly on that information without our having our own independent perspective. So we need to figure out how to do that.

I think having more examples of the bad choices would be helpful. At the moment, I've just got a bunch of straw men on my list, and I don't know if I should be very upset because it's so proscriptive, or if instead I completely agree about talking or not talking to that particular group. I guess we don't really want to name the particular individual who might be responsible for a lot of this whole discussion. Is it bad that we talk to certain people quite often? I felt uncomfortable after I saw something that this person distributed to his clients, and I stopped agreeing to do that type of phone call for quite some time—even without the rules. Sometimes financial groups have invited me to speak and, to assure me that it's appropriate for a Fed official to do this, they've said, "Don Kohn came and talked to us." I know Don has good judgment about these things. I know that he also knows how to talk to people and not say things he shouldn't say. [Laughter]

MR. TARULLO. He did it for 40 years, Charlie.

MR. EVANS. Yes, that's exactly it. Don once told me, "The minutes come out tomorrow. I always read the minutes very carefully, because that reminds me of the language in which we talk about various things." Do the rest of us do that before we talk to a group? I know I don't. I think *The Wall Street Journal* is particularly effective at getting certain messages out, so we need to be careful about how restrictive we might be—I can talk to a whole bunch of people and not get any press.

I think informal guidelines would be better than strict ones, and I, personally, speak openly anyway when I talk to people. So I don't think I am giving different messages to different people. I just say what I want. If I thought that the rules were pretty proscriptive and difficult, I might be tempted to regularly post my observations on how I thought things were going and have it in a nice place on a website. That may or may not be in line with what you are actually trying to get across, but it would be in the spirit of communicating very openly to everybody.

MR. KOCHERLAKOTA. In 140 characters or fewer. [Laughter]

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. I, too, want to thank the subcommittee for putting in time and effort and good thinking to help us on this. I strongly support an effort to come to a mutual understanding about the standards of integrity we expect of each other, and I think that's really worth doing.

I've been wrestling with this since the subcommittee sent out materials for us to review. I thought I had a grip on a number of principles, but I realized I hadn't thought deeply about what they're grounded on. I think it's difficult to draw bright lines, and that's what I am struck with in reading what you have distributed. Let me take this phrase as an example: "individuals whose purpose may be to generate direct or indirect trading profits." I'm often at receptions around the District, where I talk to people who are members of the public. As someone else remarked, virtually any of them could have a portfolio on which they could make a decision that might reflect what they thought they gleaned from what I said. I think we all know what we're trying to capture—the Macroeconomic Advisers of the world—but the net is drawn too loosely.

The other issue is predicting monetary policy, and that stuck in my head for a bit, because, if you look at this from a broader perspective, we've been on a three-decade journey towards greater transparency, towards fuller communication. I think we talk a lot more about our individual views than we used to. I haven't gone back and compared speeches, but my general sense is that, over the last 20 years, members of the FOMC—Governors and Presidents—say more in public about their own views than they used to. We used to be much more guarded. Central banks around the world over the last 20 or 30 years have become much more forthcoming, and I think there's a really good reason for that. I think that we all understand that we are more effective the more the public understands about how and why we do things. We want people to understand our reaction function, so, in some sense, we want people to be able to predict monetary policy. That creates an inevitable tension. Obviously, if markets expect a move of 25 basis points, and somebody tips them off that it's going to be 50, that's a problem. But, explaining macroeconomics to somebody presumably doesn't prejudice a decision and helps what we're doing going forward. Between those two poles there's going to be some fuzziness; for example, the elements of macroeconomics that you choose to enlighten people about can convey information about your views—in fact, this is a time-honored Fed communication practice that we use to hint about one thing or another.

This is a hard issue to resolve, and it draws me strongly to the idea of dealing with it in terms of principles rather than prescriptive, detailed, legalistic rules. Along the same lines, I think that centralized reporting is going to absorb a lot of time and effort on a small fraction of cases that are sort of blurry; for example, people will be spending time trying to figure whether they should report something or not, and it's not likely to be worth the effort. I think what we're going for should be a mutual understanding of the general principles involved, which are selectivity of access and inappropriate disclosure, or the perception of those two things.

I think what President Bullard said is really important. Imagine that we adopt a formal policy on communications. Imagine that it's also secret. So we adopt a secret policy on communication—well, that doesn't seem right. I think we're going to be drawn towards releasing our policy. And I think President Bullard is right that we want to frame it in the broad context of the value we see of communicating to American citizens. I also think First Vice President Moore is right that we're perceived as cozy with Wall Street when the reality is that we spend a ton of time with the citizens around our Districts.

In sum, I think it would be useful to have that come through in a statement of what we think our communication is about, and how we do it with integrity. I would urge the subcommittee to think about it from both the positive side and the negative side and try to craft a philosophical statement that starts things off and says something like, "Yes, communicating to the public is important, because they need to understand what we do, why we do it, how we do it, what goes into our thinking," and so on. Then, "At the same time, there are some things we need to keep confidential for the integrity of the process. Here is how we constrain that." But put that as part of a broader, more positive message about communication. These are my initial thoughts on this, and, at this time, it is all I have to offer.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. Unfortunately, Mr. Chairman, I have to leave, because I'm giving a speech tomorrow morning to the Armstrong Dad's Club at a local elementary school—it's not about monetary policy. [Laughter] I apologize for not being able to stay. I do think this is a very good suggestion. We have talked about this. I don't want to talk too much because I'm on the subcommittee, but we should frame it in the positive sense that President Bullard and others mentioned, that we're attempting to communicate more broadly. I think John hit the nail on the head—we're viewed as being too cozy with Wall Street and too opaque to the public. If we phrase it that way, we can also point out some things that we do not do, such as provide inside information to unnamed former Governors who are consultants, so that they can make a profit. I think we could emphasize that within a positive context.

I think President Lacker is right that having very bright lines is extremely difficult. I think good judgment, in the end, is what is required. What we are really talking about here is reaffirming an ethic that makes us an exceptional institution. There are some bright lines, however; for example, Sandy referred to the SEC fair disclosure rule. I'm also sympathetic to broadening the group, as Charlie said, because it's not just principals at this table but also the staff that have access to inside information, and we have to be very careful not to allow anybody to trade on it.

But the general principle that has been expressed here, which is fairly new for our subcommittee to hear, is to put it in a positive context. Our job is to communicate as broadly as possible, to inform the public, and not to have certain subsets of the public have privileged information from which they either might profit or it might be interpreted that they are benefiting at the expense of others. If I may be excused, I would be grateful. Thanks.

CHAIRMAN BERNANKE. Thank you. Have a good flight. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Mr. Chairman. I agree with Jeff on the communications. We don't want to make it look like we are trying to clamp everything down. In fact, we want to frame it so that we're actually opening things up and communicating to people in a fair, transparent way, so that everyone has equal access to the information.

It seems to me there are two broad guidelines that we're trying to conform to. One is not to communicate material, non-public information to privileged parties; we want to avoid that at all costs. Included in that material, non-public information would be, of course, any talk about what happened at the FOMC meeting, because that is material and it is non-public; for example, one wouldn't talk about what someone said at the FOMC meeting. I don't know that we have to define each of those little pieces, and, instead, if we use the category "material, non-public information," I think we all know what that is and can make judgments about that.

The second broad guideline is a bit more difficult—we shouldn't participate in any forum or meeting that provides a commercial benefit to that party. This is particularly relevant to accepting speaking engagements. Therefore, for example, I shouldn't go speak at Goldman Sachs and talk to their clients. And I would never do this in a million years, believe me, and the reason is that Goldman Sachs benefits from that. I'll give you an example of how far this can go. I had a phone call from someone that used to be my boss who wanted me to give him a reference to another financial firm, and I refused, because I felt that if I gave him a positive reference, which he probably deserved, I was generating a commercial advantage for that person. So we don't want to do anything that provides a commercial advantage to a party.

Now, the reason why this gets tricky is that it's hard to say where it ends. Speaking at a financial firm for its clients is obviously out. Speaking at an advisory firm for its clients or that is going to use the information somehow, is obviously out. But how about a university? I gave the commencement address at New College. Well, it's probably beneficial to New College to have me as their commencement speaker, and that is probably creating some commercial advantage to them. So does that mean I can't be the commencement speaker at New College? Here's another tricky example. Let's say you're going to meet with the board of directors of one of the banks in your District. Well, it's good for that firm to have that contact—it probably makes the board of directors feel better about being on that bank's board. I think that's probably okay, but there's a gradation of cases, and I think it's very hard to draw the line precisely at the point where the commercial advantage is significant enough that it's out of bounds. One that's clearly out of bounds is talking to a firm that's a Fed watcher—that person you spoke to is going to take that information and sell it for profit.

I think the principle is clear, but exactly how far down you go is a little bit more difficult. Maybe we can specify examples that are very clearly out of bounds, specify gray areas, and then specify some things that we think are acceptable, say, doing a speech for a nonprofit organization.

MR. LACKER. A trade organization.

VICE CHAIRMAN DUDLEY. Trade organizations.

MR. ROSENGREN. A fundraiser for a nonprofit would be okay?

VICE CHAIRMAN DUDLEY. Well, that's an interesting question—for a university, for example.

MR. ROSENGREN. If the organizer invites only wealthy alumni from a university for the sole purpose of raising the endowment of that university, do you think that would be okay?

VICE CHAIRMAN DUDLEY. I don't know.

MR. LACKER. How is that different from a Chamber of Commerce?

VICE CHAIRMAN DUDLEY. Remember that you're not disclosing material, non-public information. There are two separate things here. But I think this is tricky. I think the education one is the particular one that we need to spend a little bit of attention on.

Let me just make a few other points. I actually am in favor of reporting all meetings. I think this is just a transparency thing. If you don't report them, then people are always going to be suspicious of whom you're meeting with, and if we're all doing the right thing and meeting with the right people, then we shouldn't be embarrassed by whom we're meeting with. I just don't think it's that big a deal to report it.

I think it's useful, as others have said, to have a third party in attendance when possible, be it someone from research, communications, or the executive office. That provides protection if you ever get into a "he said, she said" situation, because the third party can actually repudiate what the person reported you said if you didn't actually say it.

I would prefer to have a formal policy, even though the formal policy may just be these high-level principles. It seems to me that we want to have something written down. I'd much rather tell the Congress that I have a formal policy than an informal policy. How could I justify saying, "Oh, we just have an informal policy about how we communicate"? I think that would be hard to defend.

Finally, on the staff issue, this is a red herring, in my opinion. Speaking for the New York Fed, we went through the crisis for years and dealt with all sorts of special stuff. As far as I'm concerned, nothing ever leaked from anybody. So I don't think it's a staff issue. I really think that's off point. I think it is about us, how we behave, how we talk. I don't think the staff is the problem. I really, really don't.

MR. EVANS. Could I just add to your point on the formal versus the informal policy? I don't think it's as easy as just sort of saying, "I call it formal. You call it informal." I can imagine somebody saying, "Well, a formal policy is one where there's some kind of audit trail, where there's some check against what you're actually doing." And I think that's where we would trip up.

VICE CHAIRMAN DUDLEY. A written record of whom you met with would be part of that formal process, right?

MR. EVANS. Well, okay. But, if it ends up being something that is an audit trail like our internal audit or something like that, then it's going to take on a very different nature, and I think we'll end up tripping over the little things. It's one of the things auditors do—they say, "Here's a list of what you say you do, and here's what you actually did, so you missed on a bunch of things." That could be embarrassing.

MS. YELLEN. Well, it seems to me that a formal policy could be a statement of ethical principles, possibly couched in the positive way that you and Jim and Jeff and others have proposed. It could be a clear statement of what one's ethical obligations are. Obviously, there are gray areas when it comes to specifics. But the idea is that, even though it's not quite enforceable, a positive answer to the question "Do you adhere to high ethical standards" is not voluntary, it's obligatory.

MR. BULLARD. I had one comment on Vice Chairman Dudley's remarks. I thought that the most out of bounds thing that you could do is to talk to a board of directors, especially of a financial institution. I was taught in the Fed that that was the most out of bounds. And you, in contrast, have the idea that, if that same bank has its clients in with a big group, that's what's out of bounds. I think that difference shows how murky this is. When you talk to the bank directors, you're going right into the bank, and that could be perceived as giving inside information directly to the financial institution.

MR. LACKER. The context is that our supervisory staff frequently meets with boards of directors of banks we supervise.

MR. BULLARD. That's different.

MR. LACKER. Occasionally, these are large, prominent firms. The Reserve Bank President is invited along. There are times when I accompany my staff for a particularly important meeting.

MS. YELLEN. But for supervisory purposes.

MR. BULLARD. To talk on supervisory matters.

MR. LACKER. Right, but it can happen that one is quizzed about macroeconomic information. It hasn't happened to me though.

CHAIRMAN BERNANKE. Governor Warsh.

MR. WARSH. Thank you, Mr. Chairman. I have a few broad comments. First, I view this subcommittee that Governor Yellen is heading as important and the successor to a long set of communications discussions. I don't view the discussion that we're having or should be having as the "gotcha" committee because of particular ill things that we're trying to root out. If that comes out of a broader discussion of how we best communicate and what things are to be avoided, that's fine, but I don't think that this should be reflected as somehow catching bad guys, and that's what is occupying our time.

Second, I favor constitutions, not penal codes. I think the penal code concept suggests somehow that there has been a grievous breach in decorum, respect, comity, civility. I haven't seen any of that, even in the big fights we've had over LSAPs. I think we run real risks to the integrity of this organization if we decide that we're going to set up controls, audits, systems, processes, and procedures. We would look a lot like other agencies and a lot less like the Federal Reserve a couple of years after that. So put me in the camp of constitutions. Constitutions aren't something that people can disobey. Constitutions matter. They impact people's behavior. Views and interpretations of constitutions are important, but I think they're very different from penal codes. If you look at countries that start out with 10-page constitutions and then have thousands of pages—I'm thinking of particular countries in South America—you see republics that are breaking apart at the seams.

Third, I think we've got different classes of counterparties, each of which demands a different set of judgments. For example, regarding market participants, I agree with Charlie Evans that you can get a lot out of having a discussion with them, so it strikes me as a discussion that should be encouraged and not discouraged. That doesn't mean there shouldn't be rules of the road. Another class is the people who stand between us and the real world to communicate—I get nothing out of those discussions, though I see what they get. As a result, I would bring different rules of the road to the frequency and necessity of those sorts of conversations. Finally, there's the press. I think that's a different discussion from the one we've been having and it should be thought of differently with different rules. I don't have any perfect solutions but I wouldn't conflate the press with intermediaries who stand between us and financial markets.

I have just two more. Fourth, the Chairman is different from the rest of us. And it strikes me that not only is this Chairman different, but Chairmen are different, and we should think about the discretion they might need, because their communication of policy is fundamentally different from that of Governors and Presidents. As a result, I think we wouldn't want to constrain the Chairman with rules, particularly at times of crisis.

Fifth, I think Bill rightly brings up the point of material, non-public information. Let me combine that with the discussion about the need to communicate more, to tell people more about what we think. In my view, the world hears from a lot of us all the time, and there's a big difference between the frequency of communication and their understanding of how we're thinking about policy. I don't happen to share the view that more is always and everywhere better. If I can only say to group X what I said in a public speech, then, for those of us who tend to speak less frequently, you feel compelled to get your evolving set of thoughts on the record on a monthly basis, otherwise you run afoul of the penal code. I don't think that that's necessarily good. I trust everyone around here to make his or her own judgments about how frequently they should speak, and I wouldn't want to tie private comments to the most recent things that were said in the speech to the local Rotary. Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Duke.

MS. DUKE. Thank you. I have just a couple of thoughts, and going through this process has opened my eyes to how difficult it actually is. First, a number of people have talked about judgment, and in information security or control mechanisms, there's always the basic tenet that your overall security program is only as good as the weakest link. In this situation, our reputation is only as good as the weakest judgment among us, so the judgment calls that each of us makes will affect the reputation of us collectively. I think it's important to keep that in mind and continue to discuss it.

Second, I think one thing we really are trying to guard against is sort of "synthetic" confidential information. We all understand what the actual confidential information is—the written materials, what's said in this room, and so on. But what about the things that each of us is thinking, the things we're talking to each other about not in a formal FOMC meeting, and the opinions that we have? By talking to each of us, somebody could create confidential information. Given that, I do think we need some coordination mechanism to understand who's talking to whom in order to avoid the appearance, if not the reality, of somebody being able to create synthetic information.

Finally, there's a tendency to think of this communication issue as covering conversations in formal settings, but, in reality, each of us is always an FOMC participant, and, just as Governor Raskin gets caught between the tabloids and the gum, I've been tackled in bars and I've been tackled on the beach [laughter] by people wanting me to explain what it is we're doing. If I felt that the only answer I could give them was something I had already said in a public setting or in a speech, I would have to start tweeting, I really would. So I think we have to be careful about prohibiting saying anything that you haven't said in public. Doing so could create an awful lot of noise from things being said in public just so that they could then be said in private.

Finally, I come down in favor of formal principles with some suggested guidelines that go along with them, and I think it does make sense for those to be positively framed rather than negatively framed. Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. My first point picks up on something that Kevin said and a couple of people echoed, but it was notably absent from the beginning of the go-round, and that point is that there are discrete issues here. The one that I think is front and center is that of exclusivity of access, particularly exclusivity associated with profit and trading for profit. The issue of communication seems to me a different one—related perhaps, but a much more difficult one—and, as you said, Jim, one that has more affirmative elements to it and not simply negative elements. As you could tell from my earlier question to Eric, I, like Kevin, think the issues of the press are perhaps deserving of some conversation, but they're separate, as well, in part precisely because if the press itself is acting ethically, exclusivity is not an issue. They literally are speaking to the world whenever they repeat something that they have heard from one of us.

My second point is a little hard to say, but I'm going to say it. I disagree with Kevin on this notion that somehow the Federal Reserve is special and that the rules that apply to the rest of the government don't apply to us. I'll be honest and say that's one of the things that has concerned me about the Federal Reserve in the two years that I've been here. I'll begin with ethics. There have been some things that I have seen—and, again, it's hard to say this—particularly associated with some of the behaviors of some directors at Reserve Banks that just shouldn't be allowed, and I think we need to formalize things considerably more than they have been formalized.

The third point is that rules are hard. Rulemaking is difficult because you always have under-inclusion and over-inclusion. This is why rulemaking processes are not a straightforward exercise, and why rules are not always the best approach to take. But, Charlie, precisely because one cannot legislate good judgment, there are times when one needs to legislate behavior. I think there are circumstances in which the potential for over- and under-inclusion is sufficiently circumscribed that one may need something approaching a rule, even though, in a lot of other areas, principles and examples and guidelines are more appropriate mechanisms. In a way, some of this discussion was like a first-year law class. People state a position, and some people create a hypothetical that's at the edge of that position to show how you can't possibly have a rule.

Well, of course, you can have a rule, but you can't necessarily cover everything with that rule. Several people have been explicit about this, and I agree with them.

The most disturbing thing right now is the phenomenon of someone who comes in, talks to most or all members of the FOMC and then to a group of paying clients, essentially advertising that fact and suggesting that there's a special kind of information. This is not limited to one person, and this is not just Macroeconomic Advisers, although they have been mentioned. Way before I was at the Fed, I heard people going around town saying, "Oh, yeah, I have lunch with X and Y at the Fed, so I kind of know where they are, and this is where the Fed is heading on this." I think this problem is more serious than most of the people around the table think it is, and I have believed since I've been here that there was a real problem waiting to explode. Now, we've had a lot of bad press, which has been about other things, but I really think there's the potential for problems here. And I have to say that it's not just limited to, as I said, the Larry Meyer type of issue at all. I think Larry is going to bear the brunt of a lot of this in some respects, but it really isn't limited to him. We're not at the point of being able to write that rule, but that doesn't mean we don't need to be in favor of doing so. I would add that I really think we need rules for the conduct of directors of Federal Reserve Banks. I really do. Thank you.

VICE CHAIRMAN DUDLEY. Regarding what particular things?

MR. TARULLO. There have been meetings where people are formally here in their role as directors and they have attempted to lobby me on applications dealing with their institutions and/or pending regulatory issues. In one case, even when I suggested to the individual that it was inappropriate, he persisted with my colleagues and attempted to come by my office the next morning. I just think we need a code of conduct to prevent that sort of thing.

CHAIRMAN BERNANKE. Governor Raskin.

MS. RASKIN. Thank you, Mr. Chairman. I, too, want to thank the members of the subcommittee on communications for helping to guide this discussion. I have certainly learned a lot listening to everyone's comments. Certainly, the notion of having an overarching philosophical statement is a good one, so, in that spirit, I would offer the following. In considering why central banks communicate with outside people, I start with the overarching principle that they do so to enhance transparency, and there are really two fundamental purposes in doing so. First is accountability. There's enormous power inherent in a central bank, so the political process has the ongoing responsibility of evaluating whether our exercise of that power is meeting society's goals. In other words, the public has to have information to conduct an effective evaluation of our work. The second reason we aim to enhance transparency is that we're in the business here of managing expectations of inflation and of the future path of the policy rate. In thinking about the second reason, which is essentially about the conduct of monetary policy, my evolving view is that we want to make sure that we remain accountable while at the same time we want to make sure that we are correctly managing expectations. And we want there to be an explicit responsibility. To use Governor Duke's metaphor, we wear the FOMC hat when we're in this room, and we wear it when we're outside this room. And, because we're in the business of managing expectations, anything that we communicate is, in essence, communicating something about our personal views or the Committee's views.

If we believe in this second purpose of transparency, then we have a collective responsibility to make sure that our communications serve the policy paths that we have agreed to. When we significantly depart from this responsibility, we undermine the Committee's decisions, and we inject significant suboptimality into the policy decisions.

So when you think through the notion of the optimizing the work that we do here, I think you can see guidance evolving towards one that includes some notion of timing. We've been talking about content, but there's also a notion, I think, of timing. So in other words, we think through when it is, how long we're going to give decisions time to play out, and at what point we let views come in that could be shaping, in essence, the policy decisions that are made in this room.

I'll summarize by saying that I think the FOMC is a collegial committee and is responsible for the conduct of monetary policy, and as such, its responsibility extends through the whole decisionmaking time line. It extends to pre-announcement effects of prospective actions. It extends to what goes on in this room and persuading colleagues of the views expressed when we do our deliberations, and it also extends to the effects of our policy statements and the minutes on market expectations. I will stop there.

CHAIRMAN BERNANKE. Thank you. President Kocherlakota.

MR. KOCHERLAKOTA. Yes, I'd like to follow up on Governor Raskin's comments because I thought you laid out a really good way to think about things. I would just add one aspect. I think another role in our communication is listening. Communication is not just us talking and telling people what we want them to hear. Part of our role is to listen to what's going on in the economy. That's where you end up in these private settings, really. It's not so much that I have any interest in privacy, but rather that the person talking to me might have an interest in privacy.

CHAIRMAN BERNANKE. Thank you. Would you like to sum up?

MS. YELLEN. It's great that we're all in agreement. [Laughter] I appreciate the wide range of views we've heard. I think that, at a minimum, what I would try to accomplish is to articulate some overarching philosophy concerning communications that expresses both its positive value and the ethical principles that we need to adhere to in order to make sure that we don't create undue private advantage. How we get past there isn't obvious; the gray areas here are immense. I share the view many of you have expressed that these contacts are very valuable as we carry out our work, and I think our subcommittee really needs to think about whether we can devise any more-concrete guidelines about how the philosophy applies in specific situations. Again, I appreciate the views you've expressed, and, obviously, we have our work cut out for us.

CHAIRMAN BERNANKE. Thank you all very much. The next meeting is March 15. The meeting is adjourned.

END OF MEETING