

**Meeting of the Federal Open Market Committee on
September 17–18, 2013**

A meeting of the Federal Open Market Committee was held in the offices of the Board of Governors of the Federal Reserve System in Washington, D.C., on Tuesday, September 17, 2013, at 1:00 p.m. and continued on Wednesday, September 18, 2013, at 8:30 a.m. Those present were the following:

Ben Bernanke, Chairman
William C. Dudley, Vice Chairman
James Bullard
Charles L. Evans
Esther L. George
Jerome H. Powell
Eric Rosengren
Jeremy C. Stein
Daniel K. Tarullo
Janet L. Yellen

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

Jeffrey M. Lacker, Dennis P. Lockhart, and John C. Williams, Presidents of the Federal Reserve Banks of Richmond, Atlanta, and San Francisco, respectively

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
Steven B. Kamin, Economist
David W. Wilcox, Economist

Thomas A. Connors, Troy Davig, Michael P. Leahy, Stephen A. Meyer, Geoffrey Tootell, Christopher J. Waller, and William Wascher, Associate Economists

Simon Potter, Manager, System Open Market Account

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

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

James A. Clouse and William Nelson, Deputy Directors, Division of Monetary Affairs, Board of Governors

Jon W. Faust, Special Adviser to the Board, Office of Board Members, Board of Governors

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

Ellen E. Meade and Joyce K. Zickler, Senior Advisers, Division of Monetary Affairs, Board of Governors

Eric M. Engen, Michael T. Kiley, Thomas Laubach, David E. Lebow, and Michael G. Palumbo, Associate Directors, Division of Research and Statistics, Board of Governors; Fabio M. Natalucci, Associate Director, Division of Monetary Affairs, Board of Governors

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

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

Christopher J. Gust and Elizabeth Klee, Section Chiefs, Division of Monetary Affairs, Board of Governors

Gordon Werkema, First Vice President, Federal Reserve Bank of Chicago

David Altig, Loretta J. Mester, and Harvey Rosenblum,¹ Executive Vice Presidents, Federal Reserve Banks of Atlanta, Philadelphia, and Dallas, respectively

Joyce Hansen, Evan F. Koenig, Spencer Krane, Lorie K. Logan, Mark E. Schweitzer, John A. Weinberg, and Kei-Mu Yi, Senior Vice Presidents, Federal Reserve Banks of New York, Dallas, Chicago, New York, Cleveland, Richmond, and Minneapolis, respectively

Chris Burke and Jonathan P. McCarthy, Vice Presidents, Federal Reserve Bank of New York

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

¹ Attended introductory remarks at Tuesday's session only.

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September 17 Session

CHAIRMAN BERNANKE. Good afternoon, everybody. Today is Harvey Rosenblum's last FOMC meeting before he retires from the Dallas Fed. Harvey started his Fed career at the Chicago Federal Reserve Bank in 1970, when I was a senior in high school. [Laughter] He will have attended—get this—189 regular FOMC meetings, including this one, starting with the meeting in November 1985 when he first became the research director at Dallas. Harvey has advised three presidents of the Federal Reserve Bank of Dallas, including Mr. Boykin; Mr. McTeer, “the Lonesome Dove” [laughter]; and President Richard Fisher.

MR. FISHER. “The Lonesome Hawk.” [Laughter]

CHAIRMAN BERNANKE. Harvey, congratulations on a distinguished career. All of your colleagues and friends here at the Federal Reserve System, I'm sure, wish you the very, very best. Thank you for your service. [Applause]

MR. ROSENBLUM. Thank you, Mr. Chairman. If I could just add, it really has been a privilege serving this Committee for 27 years and the Federal Reserve System for 43 years. It has been fun and exciting to watch all the things going on and participate in them. I'm going to miss this place, and I'm going to miss your leadership. Thank you.

CHAIRMAN BERNANKE. Thank you. Let's go to the agenda, item 1, “Financial Developments and Open Market Operations.” Let me turn the floor over to Simon Potter.

MR. POTTER.¹ Thank you, Mr. Chairman. U.S. interest rates rose moderately over the intermeeting period, extending their increases since early May, while other domestic asset prices were relatively little changed. The increases in interest rates continued to be driven by shifting expectations for Federal Reserve policy and various sources of uncertainty about the policy outlook. Sovereign yields in most other advanced economies also rose, reflecting the pass-through of U.S. monetary

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

policy expectations and some better-than-expected economic data. Financial stresses in some emerging markets intensified early in the period, but conditions have stabilized. Risks associated with a wider conflict in Syria also contributed to some volatility in asset prices over the period.

Your first exhibit begins with a brief review of changes in domestic asset prices over the intermeeting period through last Friday. As shown in the top-left panel, 2- and 10-year nominal Treasury yields increased 12 and 27 basis points, respectively, and interest rates on 30-year fixed-rate mortgages rose roughly 26 basis points. TIPS yields increased more than comparable-maturity nominal Treasury yields, leaving measures of inflation compensation a bit lower. The S&P 500 and the trade-weighted dollar were both little changed.

The rise in interest rates extended the sharp increases seen over the two prior intermeeting periods, and longer-term nominal Treasury yields and mortgage rates are now up roughly 120 basis points since the April/May FOMC meeting; real yields have risen by even more. However, market dynamics such as deleveraging and convexity hedging, which likely amplified the interest rate increases in June and July, appear to have moderated. Some of these dynamics will be discussed in Mike Kiley's briefing and were examined in the staff's recent Quantitative Surveillance report.

Despite domestic economic data releases that were, on balance, viewed by market participants as somewhat weaker than expected, the odds placed on a reduction in the pace of asset purchases at this meeting appeared to increase. In a continuation of developments since mid-May, investors also seemed to revise up their expectations for the path of the target rate over the next several years, and uncertainty about the outlook for monetary policy increased. Many market participants highlighted shifting expectations regarding Federal Reserve leadership as an increasingly important factor driving interest rates over the period. Confirming the role that leadership succession played, financial conditions—as measured by bond yields, equity prices, and the dollar—eased significantly early yesterday, following the announcement that Lawrence Summers, the presumptive favorite, was no longer under consideration to be the chairman of the Federal Reserve. Some of the moves retraced over the day as market attention returned to potential policy actions at this meeting.

As shown in the top-right panel, the path of the federal funds rate implied by a straight read of interest rate futures increased over the intermeeting period. Implied rates 2 to 5 years ahead rose the most, and this part of the curve steepened. The higher rates likely reflect a shift up in investors' expectations for the most likely path of the target rate, as well as the effects of the increased uncertainty about Federal Reserve policy. These changes in uncertainty are illustrated in the middle-left panel, which shows the evolution of interest rate implied volatility.

To gain further insight into these dynamics, the Desk's latest primary dealer survey asked respondents to rate the importance of various factors in explaining the roughly 40 basis point increase in the 10-year Treasury yield between the release of the July FOMC statement and September 5. The responses, shown in the middle-

right panel, indicate that dealers believe that changes in market expectations regarding the path of monetary policy and uncertainty about monetary policy, including uncertainty over leadership succession, were the dominant factors contributing to the yield increase. A change in the economic outlook and technical factors were rated as less important. Notably, we continue to see a divergence between survey respondents' own policy expectations—which did not shift much over the period—and their assessment that changes in policy beliefs are the key factors driving interest rates. This divergence may indicate that the beliefs of dealer respondents differ from those of traders and investors whose views more directly affect prices in markets.

Turning to this meeting, as shown to the right side of the bottom-left panel, averaging across the primary dealers' beliefs produces a 58 percent probability of a reduction in the pace of purchases, a modest increase since the July survey and broadly consistent with the results of many other surveys. However, beliefs about the odds of this action still range widely. This contrasts with the move to a concentration of beliefs for some previous changes in balance sheet policy. For example, as shown to the left side of the panel, views on the likelihood of a second LSAP program had coalesced at very high levels leading into the November 2010 FOMC meeting. There was, consequently, little market response to the Committee's announcement of the program. Given the current dispersion of beliefs, any decision on asset purchases made by the Committee today seems likely to produce some market volatility.

One potential concern raised by the continued increase in interest rates over recent months is that some investors may be attaching probability to the Committee increasing the target rate ahead of reaching the forward guidance thresholds. To understand views on this, the dealer survey included a special question, which asked respondents to assign probabilities to the unemployment rate falling within various ranges at the time of the first target rate increase, under the assumption that inflation remains well behaved from above. As shown in the bottom-right panel, dealers believe with high likelihood that the unemployment rate will be between 6 and 6½ percent at the time of the first rate increase, and averaging across dealer beliefs produces a probability of 8 percent for the Committee raising the target rate while the unemployment rate is above the 6½ percent threshold. Dealers who assign relatively high odds to a first rate increase with unemployment still above the threshold are more likely to believe that changed views on asset purchases were an important factor driving yields this period.

Your second exhibit focuses on foreign financial developments. As shown in the top-left panel, longer-term sovereign yields in the U.K. and Germany tracked U.S. yields closely over the period, suggesting that, to a large extent, they were driven by some of the factors impacting U.S. yields that I described above. Yields in Japan were stable, likely reflecting, in part, the effects of the BOJ's large purchase program and its extremely accommodative policy stance.

As shown in the top-right panel, implied rates on sterling- and euro-denominated interest rate futures maturing beyond 2014 have also risen markedly in recent months.

This is an interesting development in light of the introduction of forward rate guidance by the ECB and the Bank of England. The increase in sterling futures rates was particularly pronounced. Market participants attributed this to the specific conditionality of the guidance, especially the BOE's "inflation knockouts," as well as to the fact that the BOE's 7 percent unemployment rate threshold was at the high end of market expectations for the guidance.

Conditions in European financial markets appear to have been resilient to the rise in yields. As shown in the middle-left panel, forward sovereign rate spreads in the euro-area periphery have continued to narrow, owing to the insurance provided by the OMT, declining fiscal and current account deficits, reduced near-term sovereign funding needs in Spain and Italy, and lowered dependence of banks on ECB funding. For similar reasons, European bank shares sharply outperformed both U.S. banks and the overall European stock market. More broadly, the price-to-earnings ratio of European stocks, shown in the middle-right panel, rose on the period. Notwithstanding these positive developments, concerns regarding the periphery remain, as public debt levels continue to increase and growth remains tepid. Market participants will pay keen attention to various upcoming risk events, including elections in Germany and potential political turmoil in Italy, ongoing negotiations between Greece and the IMF, and reviews of the Portuguese and Irish aid programs.

Another development has been the moderation of stresses in some emerging markets in recent weeks. Steve Kamin will discuss these stresses further in his remarks. Staying on the middle-right panel, the price-to-earnings ratio of emerging market equities rose somewhat over the period. Emerging market currencies, shown in the bottom-left panel, appear to have stabilized. Both had fallen amid the market volatility in June and then again over the first half of the intermeeting period. This development is likely due to the continued policy actions by EM central banks, as well as some better-than-expected Chinese economic data.

There was considerable variation in asset price performance across emerging markets, as those countries that have large current account deficits funded from portfolio inflows and that face significant policy challenges experienced the weakest equity performance and largest currency depreciations. The differentiation among currencies is illustrated in the bottom-left panel. While the overall emerging market currency index depreciated only modestly, on net, over the period, the Turkish, Indian, Indonesian, and Brazilian currencies underperformed. A similar pattern is seen in local-currency sovereign bond yields in these countries, shown in the bottom-right panel.

Your final two exhibits turn to expectations for the evolution of the SOMA portfolio, a review of market functioning in Treasury and agency MBS markets, and Desk operations.

For perspective on the asset purchase program through the end of August, the SOMA portfolio currently holds \$2 trillion in Treasury securities and \$1.4 trillion in agency MBS. Considering only purchase-eligible securities, the portfolio holds

38 percent of the stock of longer-term Treasury securities and 35 percent of the stock of fixed-rate agency MBS.

The top-left panel illustrates that, after the commencement of a reduction in the pace of purchases, the median dealer expectation is that further reductions would generally occur in steadily spaced and sized steps. Dealers' uncertainty around the size of the SOMA portfolio is smaller than it has been in the past. Additionally, as illustrated in the top-right panel, dealers' average probability distribution for the size of the SOMA portfolio at the end of 2014 shifts only modestly higher if the economy does not improve as expected.

Turning now to market functioning, amid the ongoing rise in the level and volatility of interest rates, liquidity conditions in Treasury and agency MBS markets have been relatively resilient over the intermeeting period. Signs of reduced liquidity seen earlier in the summer, especially in MBS markets, have retraced to a significant extent.

Starting with Treasury markets, Desk contacts characterized market functioning as orderly, with trade sizes, bid–asked spreads, and other key measures of liquidity well within longer-run ranges. Concerns over the impending limit on the U.S. Treasury's borrowing authority, which the Treasury projects will be reached in mid-October, are not yet evident in markets. For example, as shown in the middle-left panel, there are currently no dislocations in the Treasury bill curve, though during the 2011 episode dislocations did not emerge until closer to the date at which the debt limit was projected to be reached.

With respect to Treasury operations, as shown in the middle-right panel, participation in operations over the intermeeting period was robust. The weighted average offer-to-cover ratio across all maturity buckets was well within recent ranges, with no significant outlier sectors. Favorable offers have remained consistently strong over the past year across all sectors, and the Desk has continued to execute near market levels.

In agency MBS markets, average trade sizes and volumes were relatively unchanged over the period, but have declined since the start of the summer and remain slightly lower than averages seen earlier this year. Amid the continued rise in mortgage rates, production in 30-year MBS has largely moved to 4 percent and some 4.5 percent coupons as origination volumes have slowed.

Indicators of the ease of execution in the Desk's MBS purchase operations broadly tracked market conditions, and the Desk continues to shift its purchase allocations in line with origination trends. As shown in the bottom-left panel, the competitiveness of Desk operations, as proxied by the spread of the executed price to the worst offer provided in the Desk's trades, rebounded from lows earlier in the summer. However, the spread remains somewhat wider than averages seen earlier this year.

Settlement of Desk purchases continues to be orderly. The first purchase of 4 percent coupons settled in early September, and implied financing rates, or IFRs, indicated that this did not cause any stress in the market. Indeed, the bottom-right panel shows that IFRs across production 30-year coupons generally remain near zero, and do not currently suggest settlement pressure in the market. The Desk's first purchase of 4.5 percent coupons is expected to settle in November, and IFRs for this coupon are currently at moderately negative levels. The Desk will continue to monitor supply and settlement trends closely.

The top-left panel in exhibit 4 illustrates that, if continued at their current pace, MBS purchases including reinvestments, could average about 95 percent of the projected gross TBA issuance from now through June 2014. While this would represent a larger percentage of issuance than the Desk has purchased in the recent past, we do not believe this would cause significant market dysfunction. Purchases exceeded monthly gross issuance at times during the first LSAP program, and occasionally do so currently in certain sectors. It is possible for purchases to exceed gross issuance because seasoned MBS are often delivered to us as part of the settlement of TBA trades, per market convention, and the outstanding stock of seasoned MBS is relatively large, particularly at current production coupon levels.

The top-right panel shows a breakdown of the outstanding stock of 30-year agency MBS for the most widely traded coupons, excluding SOMA holdings. In the 4 percent coupon, for example, about \$400 billion in MBS is currently outstanding, and approximately \$300 billion of those securities are estimated to trade at or near the price that makes them economical to deliver into a TBA trade. As a result of this large outstanding stock, the Desk does not anticipate that significant market dysfunction would result from the purchase of a larger percentage of TBA issuance. However, implied financing rates might become volatile, and additional dollar rolls or coupon swaps to facilitate settlement may become necessary.

Chris Burke will now brief the Committee on developments related to a potential fixed-rate, full-allotment overnight RRP facility.

MR. BURKE.² Thank you, Simon. The Committee received two memos, which follow up on aspects of a potential overnight fixed-rate reverse repo facility discussed at the July FOMC meeting. The first memo summarizes our initial market outreach to nine firms active in money markets on the possible effects of such a facility. The second memo proposes an additional step in evaluating overnight RRP through an extended operational exercise. Under this proposal, the Desk would conduct a series of daily overnight RRP operations, within tight limits established by the FOMC, but likely larger than previous exercises.

The field research, conducted after the release of the July FOMC minutes, focused primarily on understanding market participants' views on how a facility based on fixed-rate, full-allotment overnight RRP might impact money market interest rates

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

and intermediation flows, what the relationship might be between the facility rate and other money market rates, and how different types of firms might view such a facility. All participants suggested that this type of facility would likely be an effective policy tool to help establish a floor for money market rates. And while participants noted that effectiveness would depend, in part, on whether the facility was accessible to a sufficiently wide set of money market lenders, most noted that the current set of RRP counterparties included many of the lenders whose activity is a meaningful determinant of money market rates.

They also expect that an increase in the facility rate would shift the whole constellation of money market rates, and that those changes would likely cause some shifts in money market intermediation. None noted any particular concern with these potential shifts or felt that this would be particularly disruptive, yet several did note the potential impact such operations might have on the federal funds market. They noted that an overnight RRP facility would likely draw activity out of the fed funds market, which could reduce the usefulness of the fed funds effective rate as a proxy for other overnight money market rates. Participants also noted that this was a risk that already exists outside the prospects of an overnight RRP facility.

Contacts did note some uncertainty regarding both the goal and timing of the introduction of the proposed facility. They all saw a natural link between the facility rate and the rate paid on IOER, and the use of the facility later on during the policy normalization period. Many also inferred that the facility could address market functioning issues in securities financing markets by placing a floor near or at the zero bound, potentially in the near term. Some participants also suggested that the Fed may want to implement a facility sooner to demonstrate control over rates before tightening policy, and, in such a case, the rate might be set close to current repo market rates.

In addition to this outreach, the Desk has continued to develop the operational infrastructure needed to support overnight RRP. In the most recent small-value exercises, staff operationally confirmed the Desk's ability to conduct RRPs with same-day settlement, at least in limited size. Now, the staff proposes that the Committee consider temporarily authorizing the Desk to conduct overnight RRP operations within tight limits established by the FOMC for up to a four-month period beginning later this month.

This exercise will enable staff to gain insight into overnight RRP usage at various spreads to other market rates, which would help highlight individual participant behavior as well as patterns in behavior by counterparty type. This exercise will also generate useful information on operational aspects of a potential facility, offering the Desk and the triparty clearing banks experience with larger, regular operational flows. At the same time, these operations are likely to be viewed as a logical extension of the small-value exercises the Desk has been conducting since 2009, and, given the limited size of the operations and the low fixed rate, these operations should continue to look and feel to market participants like a technical exercise. As such, they would not be expected to have a material effect on money market rates or volumes,

including the federal funds market, which in turn should minimize the extent to which this exercise poses significant communications challenges. And finally, the experience gained through this exercise will provide useful guidance to staff as we continue our field research, in particular as we do more work on possible effects on patterns of intermediation.

The key constraints in the proposal are on the counterparty allocation and on the rate. The per-counterparty allocation could be set at up to \$1 billion per counterparty per day, and the rate could be set up to 5 basis points. The Desk would initially establish a daily overnight RRP with a low rate of 1 basis point, a level that is below current market rates, and establish a per-counterparty allocation limit of \$500 million. This would support a gradual introduction of the exercise operationally and limit any impact from the operation on the current general level of money market interest rates. If these parameters did not encourage enough participation to allow staff to make some observations about individual interest relative to other rates, the SOMA manager could make modest adjustments to the rate and allocation limits within the FOMC's constraints. The FOMC would be given advanced notice of any change in these or other important parameters of the operation.

To enable this exercise, the FOMC would need to adopt a resolution along the lines of that shown in the second handout, which would authorize overnight RRP with a maximum of \$1 billion per counterparty each day and a fixed rate up to 5 basis points, through the January FOMC meeting.

If the Committee wished to pursue this proposal, the Desk is ready to start as soon as Monday, September 23. The exercise could run through the January 2014 FOMC meeting, which would allow an assessment of the facility under a variety of trading conditions. Public communications regarding the exercise would emphasize its operational nature, and note, as in previous cases, that no inference should be drawn about the timing of any change in the stance of monetary policy in the future. However, if market conditions are volatile in the wake of the FOMC announcement, it may be preferable to delay the start of the exercise, perhaps until the public release of this meeting's minutes on October 9. The proposed resolution delegates to the Chairman the decision about whether and when to begin the proposed exercise.

At this time, Simon and I would be happy to take any comments or questions on the overnight RRP facility or recent market developments.

CHAIRMAN BERNANKE. Thank you very much. We have the Desk report, and we'll have to vote to ratify domestic open market operations, and we also have a proposal to approve the next stage of testing of this facility. So both motions are on the table, and the floor is open for questions. President Fisher.

MR. FISHER. Thank you, Mr. Chairman. I find this proposal unobjectionable, but I have some questions, and one was hidden in a footnote of the memo, footnote 7. In referring to call participants, the footnote said, “They also noted some particular concern about potential impacts on the overnight indexed swap (OIS) market, which is based on the daily federal funds effective rate. . . . Although not discussed, the same concern would likely exist for outstanding federal funds futures contracts.” Here’s my question: Do you think the full implementation of what I’ll call the “ON RRP,” overnight RRP, would cause the fed funds market to eventually disappear?

MR. BURKE. It seems likely that it would cause the market to shrink, potentially significantly, and that footnote was referring to the potential fallout of that shrinkage.

MR. FISHER. But you made a very important point. Again, in my simple mind, the governance of this facility is under the FOMC, through fed funds. The IOER is under the Board. So in a way we have a dual governance structure and the governance of the ON RRP facility would depend on where each rate stands, in terms of tightening or loosening. Do I understand that correctly?

MR. POTTER. So one thing to think about is that the full implementation would affect flows. So the fed funds market might change from one where basically the FHLBs are selling funds into the market, and become an interbank market again. We don’t really know how big the effects of the full implementation of the facility would be, but it’s quite possible, as Chris pointed out, that you would see the fed funds market just be idiosyncratic trades and not be representative of overall money market conditions.

MR. FISHER. I think the important thing to me is that it’s under the governance of the FOMC. So I just wanted to underscore that. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Even though, technically, the IOER is under the Board's discretion, as you know, we've been working on a gentlemen's and ladies' agreement to take these decisions collectively. I think this moves things in the right direction because it puts the key rate under the governance of the FOMC, and I think that's a small advantage of this proposal. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. I share the sense of intrigue with an overnight RRP as sort of an operating instrument for monetary policy operations, and I've actually proposed that idea before. At the July meeting we had some discussion of this, and I suggested some research would be warranted before we go further down this path. The Manager was kind enough to be in communication with me about that research. The staff has done a good job of asking counterparties about their thoughts about the likely effects of this, but the research I had in mind was really something else. What I think we're lacking here is a sense of where we're going down this path and why. Let me give you an example.

The staff has suggested that we're aiming to provide a hard floor under the RP rate. Well, before 2008 we targeted the fed funds rate, and we operated with a substantial spread to the RP rate—10, 15, 20 basis points, at times larger, and fairly volatile. There wasn't a hard floor under the overnight RP rate, and we didn't seem to think it was a problem then. The staff hasn't provided any reason why it's a problem now or likely to be more of a problem going forward.

I'll raise a couple of other concerns about this path that I think deserve some really careful consideration. One is this expands us into doing a fair amount of business with money market mutual funds. So the traditional thinking is that this is an industry whose business model is based on the bypass of bank regulations, and if we're to get them to voluntarily hold overnight

RRP investments with us, kind of by definition, that makes them better off in the sense that they can offer a higher and safer rate of return than they otherwise would if we weren't in that market. It's not obvious to me that this is a good thing for the structure of money markets, for us to enhance the competitiveness of money market mutual funds. At a bare minimum, we need some thought before we go down that road. It's not obvious that there's some inefficiency that this would cure regarding the margin between bank and nonbank intermediation, or—I guess you could think of it as shadow and nonshadow banking. I thought we didn't think that was an industry that was very well structured in the broader sense. I'd also point out that, because of their status as primary dealers, the dealers are thought to enjoy sort of an imprimatur of the New York Fed, that they're accepted into a club. Presumably, the same thing will hold for money market mutual funds who have been "blessed" by being anointed as counterparties to the Desk.

Another broad concern has to do with the triparty RP market. This market is, in my view, deeply flawed. I think it's a consensus in the System. The New York Fed has been doing yeoman's work going down the path toward triparty RP market reform. That work is not complete. It's not clear how successful it's going to be without some more-fundamental changes. You know, I point out the flaw there. Two banks have a lock on clearing and settlement in the triparty RP market. The participants who clear and settle with them are highly dependent on intraday overdrafts from those banks, which gives either bank the power to refuse an unwind and force us into an untenable situation like we saw in March 2008. Although we are involved in the triparty RP market—to the tune of \$5, \$10, \$15 billion a day—and it's the way we've always done our open market operations, this is a fundamental-enough flaw that it deserves some thought before we go extending and broadening our involvement in that market.

Governor Stein made an excellent point last time, which is that we're not going to know what the implications of doing this at scale are until we do this at scale. And the corollary is, I don't think we want to do this at scale until we're ready to do it at scale. So I don't see a real huge value in pursuing more of this. Now, this has to do with monetary policy operations, the configuration of precisely what money market we intervene in, and how and under what conditions. Our system has evolved over the years. We took a run at this before the crisis. We did a fairly substantial amount of study. Some people around this table were involved in looking at different operational regimes. For me, we need that again if we're going to go down the road of some completely different operating scheme. I'd rather see us do that analysis so we know where we're headed and why, and we have a little more confidence about what effect it's going to have. Until then, these operations may be harmful. In a time of austerity, it's not clear to me that further operational exercises of this type are really a good use of our resources before we've done the kind of analysis we've done several times in our past to study the operational regime we're under and figure out whether this is what we want, or if there is some way we can improve on it.

So, Mr. Chairman, I do not support this resolution. I think we should table it, and I think you should commission some study from the experts we have here to further explore where we're headed in terms of our operational regime.

CHAIRMAN BERNANKE. I think there are two ways to think about this. One way is to think about the ultimate operating regime, which is what we studied before the crisis. But another way would be to think about it as another pair of suspenders to help ensure a smooth exit from the large balance sheet that we currently have.

MR. POTTER. Can I say just say a couple of things?

CHAIRMAN BERNANKE. Yes.

MR. POTTER. Reserves are quite large, as you might have noticed. We don't really have experience in money markets with reserves of that size. The fact that these are all in the banking system is a property of the way we've been operating. There's some interest in allowing the rest of the system to have some access to those reserves. So I don't think that pre-2007 is really going to tell us that much. The correlation between the repo and fed funds rates has dropped. So it's true there could be a gap, if there was a strong correlation between repo and other money market rates.

On dealing with the money market funds, I think we'd all agree with what you said about reform being important for that industry, but they are a very large presence in money markets right now, and we can't act as though they're not there. With respect to putting a stamp on any of these 139 counterparties, I doubt if anyone knows the names of them. The 21 primary dealers are out there on our website. But these 139 counterparties have a very different relationship. It doesn't involve the Treasury auctions or the kind of trust you'd expect to see with the primary dealers because the money is coming to us, not the other way around.

And we really have to use a triparty system right now. It's not something over the long run we'd necessarily have to use. We could build out our own way of handling the transactions, but the triparty system is quite convenient and one of the reasons it's used a lot is it's a very efficient way of engaging the repo market.

MR. LACKER. Can I follow up, Mr. Chairman? So in the exercises you have done in this intermeeting period, you have learned about the operational logistics and mechanics of us operating our system and interacting with counterparties?

MR. POTTER. At low volumes, yes.

MR. LACKER. At low volumes. So you will learn about another digit on the numbers going forward? I mean, the broader point here is that, operationally, I think you would have a fair amount of confidence that you know how to push the right buttons to get the trade made. As far as market effect, I'm not sure that even if this gets up to \$80 or \$100 billion you're going to learn much.

MR. POTTER. So our intention is to do more research based on that. We view this as a scale where we might learn more. If we do start to learn, it tells us something about how money markets are functioning in the United States. If we don't learn, we are going to have to think about how to learn some more. Introducing at full scale without trying to learn seems a risky thing to do, as you point out. This is a potentially quite large facility, and we don't want to do any harm in the actual full introduction of it.

CHAIRMAN BERNANKE. I have President Evans next.

MR. EVANS. I have a different concern about this particular issue. I would be happy to pass to Governor Stein, who seems a little more—

MR. STEIN. No, I'm fine.

MR. EVANS. Okay. Well, Mr. Chairman, I was a little more nervous about your last comment where you pointed out that this is going to help us out with the exit from our large balance sheet. And we are going to need some help, so I favor that. But I wonder if this is the right time to engage in this type of testing. There were a lot of comments about how, of course, no one should make any inferences about what this testing means for our next policy course, and I have some other questions about that related to forward guidance and whatnot. I'm not sure how much confidence I can have in that. Everyone in the marketplace knows about these tests, right? This is not a secret. So I guess my questions are: How much time do we really think we

need to prove this system? Is it measured in four months or six months? Is it critical that we do it now? If we were to delay this for perhaps a year, would that leave enough time? And perhaps that, by itself, would also send a signal, since it is ultimately a tool for exit.

MR. POTTER. The easiest way to have tested this would have been in 2007, before we had the large balance sheet. We are always going to have the fact that people might confuse this with actual exit. The coverage that we got from the July minutes suggests, because of the collateral shortage stories and other things that are out there, people think there is a reason that we might be introducing this, separate from just getting ready to exit. I would say that the concern that you are expressing is definitely one that the staff has faced. That's why you see the various options here. But I don't see necessarily that there is another window out there that allows us to learn. And it's a tradeoff for you to decide how much you want to learn now rather than learn closer to the exit period.

CHAIRMAN BERNANKE. You have a two-hander, Vice Chairman.

VICE CHAIRMAN DUDLEY. My own view of your observation, President Evans, is that if we were to decide to taper at this meeting, introducing this facility would be pretty dangerous because it might be taken the wrong way. But if we decide not to taper at this meeting, that actually creates a window for introducing this facility, so that it won't be misconstrued as part of the exit story. So, to me, if we end up in the place that we're not tapering at this meeting, there is this opportunity to put this in place and separate the potential that this is part of the exit story. It allows us to firm up the story that this is about monetary policy control, damping volatility in money market rates, reducing net interest expense potential—

MR. FISHER. So, Mr. Vice Chairman, should we defer this decision until after the discussion of what we're going to do?

VICE CHAIRMAN DUDLEY. That’s the logical—

MR. FISHER. We haven’t decided what we’re going to do. So why—

VICE CHAIRMAN DUDLEY. Well, assuming you think that argument is germane.

MR. FISHER. Well, you’re making the point.

MR. EVANS. It had more weight with that argument.

VICE CHAIRMAN DUDLEY. We could make it conditional on the monetary policy decision, I suppose.

CHAIRMAN BERNANKE. Governor Stein.

MR. STEIN. I just wanted to clarify, with regard to what President Lacker said, that I agree, absolutely, that we are not going to really know how this thing works at scale until we do it at scale. To me, that is an argument for trying to get to scale as soon as we reasonably can. If it wasn’t for the issues that President Evans and others raised, if we could somehow clearly separate that we are just doing this because it is sort of a smart way to run your balance sheet for any given size of the balance sheet, I would be saying, “Simon, tell me, when we have cleared the first operational hurdle, how do we move to the next and to the next?” I think until we have really done a trillion dollars’ worth of this stuff, we are not going to know the answer, and it is really important for us to know the answer sooner rather than later.

MR. POTTER. Trillions seems quite large for overnight, but maybe we can change it.

[Laughter]

MR. STEIN. It has to be a meaningful fraction of our balance sheet.

MR. POTTER. That is possible. Or the fact that the facility is there each day, and you know early in the morning that you can always go to the Fed, will affect market rates. So one of the conceptual things that we know is true is that it should put a floor on market rates, just by

itself, without any use. What we know from practice with the interest on excess reserves is, that doesn't work perfectly. So how much do we have to absorb before that starts to work, is the question. It could be a trillion dollars. And that would tell us a lot about how money markets function in the United States.

MR. STEIN. I think we would have to be willing to go into that neighborhood to fully answer the sorts of questions that we would want to answer.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. Thank you, Mr. Chairman. I'm just wondering where this leaves us. We're not going to learn a whole lot until we do it with scale, and, I hadn't thought about what Vice Chairman Dudley mentioned, but it is signaling something that we have yet to decide upon, or at least would impact some signaling. So I would suggest we defer this discussion until after we decide the course of policy.

CHAIRMAN BERNANKE. Well, I don't want to defer the discussion because we have very tight time constraints tomorrow morning. So we should just continue the discussion now, and we can discuss how to proceed at that point. President Kocherlakota.

MR. KOCHERLAKOTA. Yes. I will start with an initial statement, which is that I am quite interested in further study of this facility. I did have a question for Simon or Chris related to some of the conversations you heard, which is, what do you think that we are going to learn about operations of this scale?

MR. BURKE. Without getting into too much detail about the settlement methodology, the entire back office processing is completely different for overnight than what we have been working on for the last several years to support the term facility. And there is some real value for us and for the clearing banks to be able to put that in place and then really exercise it with

some volume regularly, so that we can work through the kinks. Also, with triparty reform, there have been a lot of new innovations—things that probably should have been there from the beginning, like matching and other things that we want to take advantage of. And we can't do that until we have the baseline experience with the relatively new processes that reform has created in triparty repo.

MR. POTTER. There are two other things. I think it is about \$300 billion that our counterparties have overnight right now.

MR. BURKE. About \$380 billion in triparty.

MR. POTTER. Yes, about \$380 billion. This is a pretty significant share of overnight Treasury repo, so we'll learn a little bit about how they respond to the existence of the facility.

The other thing that we are hoping to learn is at the end of quarter, end of year, and other days where there are big fluctuations in the repo rate, what does the usage look like? How does our facility affect market rates on the days when the usage goes up a lot? So we think we can learn; it's possible that we might not learn. So, as Chris stated, if you feel you could learn a lot, you should be quite gradual when you introduce a facility like this.

MR. KOCHERLAKOTA. You can correct me if I'm wrong on this, but I guess the vision I have in my head is that ultimately this will be a tool that will give us potentially tighter control over market rates than using the interest rate on excess reserves. Is that a fair characterization?

MR. POTTER. For overnight rates, yes.

CHAIRMAN BERNANKE. Vice Chairman.

VICE CHAIRMAN DUDLEY. From my perspective, the testing actually will reveal something on two dimensions. One, how sensitive is demand for changes from 1 basis point to

2 basis points? And we just don't know the answer to that. And, two, how sensitive is demand to the external factors that affect money market conditions, like quarter-end, year-end, financial market stresses, worries about Europe? All of those things are going to also affect the demand curve for safe assets, and we just don't know how sensitive that is. And the testing, I think, will reveal it.

I also think this facility, earlier rather than later, gives us potentially down the road an additional degree of freedom in monetary policy. You can imagine if the testing goes well and we learn something, we could get more comfortable using this. Let's say the economic news were to disappoint, but we didn't feel like we wanted to increase asset purchases or we felt that that channel was exhausted. Well, we could then potentially reduce the interest rate on excess reserves from 25 basis points to some lower rate. That's not really feasible, I don't think, in the current environment because we don't really know what that would do to the whole constellation of rates. If you put a solid floor in place, then you have a little bit more flexibility in terms of what you do with the ceiling. So I think it also has that potential benefit.

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. I was just going to say about tighter control of rates, that it's not obvious that argument stops at RPs. I mean, if we are interested in controlling rates, where does that argument stop? We'd intervene in anything if we wanted to control it more closely. It is not clear why you want to control RP rates more closely. That's the thing.

And the other thing I would point out is that this experiment will give us some data in an envelope of the current environment, which could be very different after we raise rates. It could be very different if we are setting a rate closer to the IOER or if we are targeting the fed funds

rate. It's not clear how that is going to affect this. So it's part of the package, and I'm not sure how well we are going to be able to extrapolate from what we learn here.

CHAIRMAN BERNANKE. President Kocherlakota.

MR. KOCHERLAKOTA. Yes. To address the concern that was raised by President Evans, it seems like the terms of this resolution are such that you would have the authority to defer the announcement of this until after the meeting. Is that a correct reading of this resolution?

CHAIRMAN BERNANKE. Well, it will be in the minutes if we approve it. We could defer any announcement or any testing until after the minutes or indefinitely if for some reason you wanted to do that.

MR. KOCHERLAKOTA. I guess I feel comfortable with this resolution on those terms regarding the concerns raised by President Evans.

MR. FISHER. May I ask?

CHAIRMAN BERNANKE. A two-hander?

MR. FISHER. I'm sorry, Mr. Chairman. I just want to ask for clarification on that. So, just make the assumption that we decide to cut back on our purchases. We would defer the announcement of this thing? Just on the odd chance that we do reduce our purchases, there's a signaling aspect that Vice Chairman Dudley talked about. Does this conflict at all in your mind, Simon?

MR. POTTER. I think that the way we framed it is it depends on how markets react, and adding volatility to the markets is not something that we would want to do.

MR. FISHER. Okay. So we would be judicious.

MR. POTTER. Yes, as always.

CHAIRMAN BERNANKE. Any other questions? President Lacker.

MR. LACKER. Just one more comment. If we do this, presumably it's going to raise RP rates above where they would be if we weren't in the market. Would that be a fair characterization?

MR. POTTER. It's not the full implementation, but the proposed testing, with restrictions.

MR. LACKER. So, \$100 billion, \$200 billion, that scale. Presumably, in some states of the world, the RP rate will be higher than it otherwise would be?

MR. POTTER. Under the counterfactual that we have here, on certain days the facility could affect those rates. On other days, with close to zero usage, you wouldn't expect it to.

MR. LACKER. Right. So then, if we stop doing this, rates would go back down to where they otherwise would have been, right?

VICE CHAIRMAN DUDLEY. Not quite. I mean, quarter-end is a very special event. The demand goes up for safe assets at quarter-end, and the next day it goes down.

MR. LACKER. The point I want to make is that if we do this and then we want to use this as a tool to ease policy, we will have already tightened policy first.

MR. POTTER. Yes. So that's one of the reasons we would start in a very gradual way, and if we learn, even with the small amounts and the 1 basis point, that we can have some effect, then that's very important information for us to learn and to give you about how sensitive the repo rate would be to this facility. In some sense it's very good news, because for a smaller size of operation, we'll be able to affect rates.

MR. LACKER. I'm just saying this is a degree of freedom for monetary policy. You have to first take the degree of freedom away in order to use this.

CHAIRMAN BERNANKE. President Evans.

MR. EVANS. Mr. Chairman, I just wanted to raise this issue to make sure that we were informed of this in our discussion. I'm perfectly prepared to support this resolution, especially after President Kocherlakota mentioned that it gives you wide scope to adjust this however you see fit. I do have another question for the Desk, if that's okay.

CHAIRMAN BERNANKE. Sure. We're still open for questions to either of our colleagues.

MR. EVANS. Simon, on exhibit 1, you went through a fascinating discussion about the implied funds rate in the dealers' survey, and about our purchases and how that likely interacts with dealers' assessments of the probability that the unemployment rate will be above 6½ percent when the first funds rate increase takes place. Looking at the path of the funds rate, I might have thought that a good chunk of that was an assessment that the economy was doing better and they were thinking about it that way. Just to make sure I understood what you said, you made a comment that the people who thought that the unemployment rate might be above 6½ percent when we do the first funds rate hike are tightly linked to people who had a change in views on asset purchases; is that right?

MR. POTTER. There was a 70 percent correlation between the answer to question 4, the change in views on asset purchases, and higher numbers for the unemployment rate at liftoff. For me, that reflected how independent some of the tools are. In May and June, we clearly saw that some market participants do not think the tools are independent—the forward guidance and the balance sheet actions.

MR. EVANS. Right, that was my concern. That was very interesting. Thank you.

CHAIRMAN BERNANKE. Vice Chairman.

VICE CHAIRMAN DUDLEY. Can I just make an interjection? The people I've talked to have said that one reason why the tools might not be independent is that if financial stability concerns are motivating us to reduce our asset purchases, those same financial stability concerns could influence our willingness to be lower for longer. And, in fact, if you look at what has actually happened over the last few months, we have seen both. So we've actually seen a backup in interest rates in the 2014 period, which might be informed by a market judgment that somehow we're concerned about financial stability and that's going to lead to an earlier liftoff. So I think there is a potential reason why those two questions get linked.

CHAIRMAN BERNANKE. Another possibility is that the expectations are still where we want them to be, but other factors like term premiums and so on obscure that. Any other questions? President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. I'm looking at exhibit 3, panel 13. Why is this picture jagged?

MR. POTTER. Why is it jagged? Because of the way that we drew it, I guess. I understand exactly what you are saying, that there are press conferences that we could have singled out here, and what you would tend to see is that if we went back and drew it with just dates, the changes would be associated with press conference meetings. The way we've done it here, you can't see that as much. A lot of the market participants do think that it would take two to three months of data to make the next change. So some people do think that the FOMC would start at a non-press-conference meeting.

MR. BULLARD. But this suggests that, if you did start at a meeting for which there wasn't a press conference, that all subsequent moves would be made at meetings for which there weren't press conferences.

MR. POTTER. No. Remember, this is the median at each point. It's not a path of the median person. So that is a different concept, and I guess we could give everyone's path and try to show that.

MR. BULLARD. Okay. The other thing I'd like to understand about this is, suppose we delay. Would the slope of this line be the same if we delay or would they expect a steeper slope?

MR. POTTER. I think we would all like the answer to that question. I didn't feel comfortable asking people that question on the dealer survey. There was a little bit of evidence that dealers who expected the reductions to start later had bigger changes, but we did not ask about what would happen to their expectations for the size of the increments if there was a decision not to reduce asset purchases at this meeting.

MR. BULLARD. Thank you.

CHAIRMAN BERNANKE. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. I had a quick comment about term premiums, which I think relates to exhibit 1, panel 2. A lot of factors influence term premiums, and Governor Stein gave a speech at the end of June, which emphasized how little we still know about what influences the term premium. But I think one possible factor is, in fact, monetary policy itself. What I have in mind is that the aggressiveness with which monetary policy responds to weak economic conditions will build into a covariance between interest rates and economic conditions. For example, if people think we are going to be very aggressive about keeping rates low or buying lots of assets in response to weak economic conditions, then the prices of those bonds will be high, and that will drive down the term premium. If, in fact, they think that we're not going to be as aggressive, that will, in fact, have the opposite effect of driving up the term premium. So the covariation of our responses and economic conditions

actually influences the term premium. I think this matters for considerations of policy because the game plan last September was sort of to build this automatic stabilizer effect into monetary policy. That shows up. One way it shows up is in driving down term premiums. As several have emphasized, there's a lot of things influencing term premiums, but one of the influences is us and people's beliefs about our reaction function.

Then I had a question about exhibit 3, panel 14. I guess this is year-end 2013 unemployment. I guess I would have been interested in knowing, if things went something like mid-2014 economic conditions, what would the year-end 2014 SOMA portfolio look like?

MR. POTTER. So what we do is we look at the most recent SEP. We take the central tendency and either side of the central tendency to make this question for the dealer survey. We feel that that's not giving information to the dealers that they don't already have.

MR. KOCHERLAKOTA. I see. I see the problem.

MR. POTTER. And what I would say is that the tails have shrunk. So the percent of dealers putting the SOMA portfolio over \$4.5 trillion is definitely starting to shrink. And these are not big differences, above and below \$4 trillion. You don't see that much difference across these scenarios. We could ask a scenario with a much higher unemployment rate, but I think we'd probably craft it in a slightly different way.

MR. KOCHERLAKOTA. Thanks.

CHAIRMAN BERNANKE. Okay. First, let's approve domestic market operations just so I don't forget. If there are no objections—thank you. On the proposal to approve testing, this is an FOMC decision, but I think given the ongoing nature of this, it would be interesting, at least for the record, to know if there are any participants other than President Lacker who would oppose testing at this time. Is there anyone who opposes at this time? All right. Seeing none

then, may I take the FOMC as approving this resolution? Okay. Thank you. Let's turn now to the "Economic and Financial Situation," and I'll call on David Wilcox to introduce.

MR. WILCOX.³ Thank you, Mr. Chairman. I'll be referring to a packet titled "Material for Forecast Summary." I would like to begin by dispensing with the policy assumptions for our Tealbook projection. Actually, it's the fiscal policy assumptions I wish I could dispense with, more literally than figuratively. The quick summary here, as you know, is that it's a scary mess. For purposes of putting together our baseline forecast, we assumed that federal government operations for the coming fiscal year will be funded without a shutdown and at a level consistent with the budget caps and sequestration, and we assumed that the debt ceiling will be lifted without incident or further near-term budget restraint. But I have to admit that the decibel level of the posturing is a little disconcerting, and there appears to be nothing but downside risk here.

On the monetary policy side, our assumptions are likewise nearly unrevised from the July projection. We continue to assume that you will begin to reduce the pace of purchases this year and end the purchase phase of the program around the middle of next year, bringing cumulative purchases under the current program to about \$1.2 trillion, unrevised from our assumption in July. As I will discuss shortly, we have the unemployment rate tracking a little lower over the forecast period than before, so under the policy rule that we are using to govern our assumption for the federal funds rate, liftoff occurs in the second quarter of 2015, one quarter earlier than in the previous Tealbook.

Turning to the economic outcomes, as you can see in the top-left panel of your first exhibit, real GDP now is estimated to have increased considerably more during the second quarter of this year than appeared to be the case at the time of the July Tealbook. However, because the upward surprise was concentrated in inventory investment and government purchases, we have not projected it to persist. Indeed, as you know from the Tealbook, we have marked down our forecast for real GDP growth in the second half of this year a little, partly on the basis of the disappointing reading on consumer spending in July, and partly in light of the slightly tighter financial conditions.

The data that we received after the September Tealbook was closed, including the August retail sales and industrial production reports and the August Monthly Treasury Statement were a little stronger than we had anticipated, but not enough to have any material effect on our near-term outlook. I would also note that the August report on housing starts and permits will be published tomorrow morning.

Beyond the near term, our projection for real GDP growth is a shade weaker than before, on account of the slightly less-accommodative financial conditions that we project over the forecast period, including a higher path of long-term interest rates

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

and a stronger exchange value of the dollar. In 2016, which we—like you—included in our medium-term projection for the first time, we have real GDP beginning to decelerate toward its potential rate of growth.

As is reflected in the upper-right panel, and as we described in the Tealbook, we fiddled some with the supply-side parameters of our framework in 2012 and the first half of 2013, in order to allow a little more room for the unemployment rate to decline despite only moderate GDP growth. But the bigger picture is that, while we now see the GDP gap as a little narrower than we thought in July, currently we have it closing less quickly than before, and therefore by 2015 see it as essentially unrevised from the July projection.

Turning to inflation, as you can infer from the middle-left panel, the recent core consumer price data have come in about as we expected in the July Tealbook. Going forward, we have shaved a tenth out of our core inflation projection, as methodological changes in the measurement of so-called nonmarket prices lowered the average rate of core PCE inflation by about this amount over history. As before, we continue to see core inflation edging up toward your 2 percent objective at a glacial pace. And we expect headline PCE inflation—not shown—to run a little below core inflation over the medium term, held down by an anticipated decline in energy prices. I am happy to report as well that this morning's CPI report was so close to our forecast that I authorized our inflation analyst to spike the CPI release in the end zone and do a victory dance. Unfortunately, because she is a native of Bulgaria, that image did not immediately resonate, so in my inimitable fashion, I proceeded to demonstrate. [Laughter]

The remainder of the first exhibit summarizes developments in the labor market. In a nutshell, the two labor market reports we received since the July Tealbook were decidedly mixed. On the household side, the unemployment rate came in at 7.3 percent in August, 0.2 percentage point below our July Tealbook projection. In response, and partly informed by our nearly unbroken string of one-sided forecast errors for the unemployment rate over the past year or so, we marked down our projected path for the jobless rate—shown in the middle-right panel—over the remainder of the medium term. And again in light of our forecast error history, we also shaved a tenth from our estimate of the natural rate of unemployment—implying that only about half of the August surprise in the unemployment rate reflected a tighter margin of labor market slack.

The other material surprise in the household survey was that the participation rate came in 0.2 percentage point lower than we had expected. We wrote off half of this surprise as likely reflecting seasonal-adjustment difficulties around the back-to-school period, but we took the other half as prompting us to be a little more pessimistic about the structural trend in this series, and so took it down by a tenth as well. As always, of course, we regard these assumptions about the supply side as a work in progress and will modify them further as needed.

With these various revisions, as I noted earlier, the unemployment rate is now projected to cross the Committee's 6½ percent threshold one quarter earlier than in the previous Tealbook. And by the end of 2016, the unemployment rate is expected to be 5.3 percent, essentially back to our estimate of the natural rate.

On the establishment side, and as is reflected in the lower-left panel, payroll job growth came in weaker than we expected in the two most recent jobs reports, with the level of payroll employment in August 130,000 below our projection in the July Tealbook. In response, we trimmed our forecast for fourth-quarter payroll job growth to 165,000 per month, about 15,000 less than in the July Tealbook. Over the balance of the medium term, payroll employment is expected to rise a bit less rapidly than we had projected in July, reflecting the slower growth in output.

Because of the centrality of the issue of slack, the lower-right panel pauses briefly to show you two other variables that, historically, have tended to move quite closely with our estimate of the gap in labor utilization. In particular, the panel plots our estimate of the unemployment rate gap against households' assessment of job availability, as measured by the Conference Board, and small businesses' assessment of the difficulty they have in filling job openings, as measured by the NFIB. While the exact degree of improvement implied by the various measures differs, all three suggest that labor utilization has improved in recent years but remains appreciably short of full employment at present.

As background for the rest of your deliberations today and tomorrow, I thought it would be helpful to take a step back and consider how the outlook has changed since September of last year, when the Committee initiated the current round of LSAPs and set out the guideline that you were looking for a substantial improvement in the outlook for the labor market. Accordingly, the second exhibit compares our current projections for a number of key measures of economic activity, inflation, and financial conditions to the ones from the Tealbook of one year ago. I strongly suspect that this exhibit will generate more questions than I have answers for, but I have found it quite thought-provoking, and so I'm going to take a risk and plow ahead. I want to extend special thanks here to Jeremy Rudd for assembling this table and some additional background information.

As you can see from the first block of numbers, our forecast for real GDP growth has changed remarkably little over the last year, on net, and although I haven't shown it here, our estimate of potential GDP growth over the forecast period isn't much different either, though we did take down the level of potential GDP throughout the period by about ½ percentage point.

But, as the second block indicates, despite relatively slight adjustments to our GDP outlook, we have made a large downward revision to our unemployment rate forecast: By the end of 2014, our forecast for the unemployment rate is 1 percentage point lower than we expected a year ago. In large part, the way we've kept the analytics of this aspect of the forecast hanging together is by marking down our near-term trajectory for the natural rate; at the end of 2014, our assumption for the natural

rate is $\frac{3}{4}$ percentage point lower than we had it a year ago. I should hasten to add that the adjustment we've made to the natural rate mostly just pulls forward the improvement that we had expected to see eventually and our estimate of the natural rate in the long run is basically unrevised. As you can see from the third block of numbers, we've also been surprised to the downside by the participation rate, though not by as much as we were surprised by the unemployment rate. On net, the employment-to-population ratio—not shown—is now projected to be about 0.2 percentage point higher at the end of 2014 than we were forecasting one year ago.

Turning to inflation—blocks 4 and 5—our forecast is down for this year, but thereafter is little revised, taking account of the change in the measurement of nonmarket prices that I mentioned earlier.

To my mind, the most interesting numbers in the tables are the ones in the remainder, which provide some perspective on financial developments over the period. Specifically, as shown in block 6, our forecast for the 10-year Treasury yield is essentially unrevised from one year ago, and, as shown in block 7, the same is true for the 30-year mortgage rate. At the same time, our forecast for the trajectory of stock prices—block 8—is up more than 10 percent from one year ago, and the path of house prices—not shown—is roughly 15 percent higher, on average, relative to last year. The only major dimension of the financial picture that looks more restrictive than we expected a year ago is the exchange value of the dollar—block 9—which is a few percentage points stronger than we expected as of last September.

So those are the facts. As for the interpretation, I expect that there might be at least as many views as there are people in this room, so here I will not venture far. But I do find it interesting that, despite an economy that arguably has made a little more progress toward full recovery than we were expecting a year ago, longer-term interest rates are no higher than we projected. Moreover, a range of other asset prices, including equity prices and house prices, are considerably higher than we expected. All of that sounds like it could be the consequence of a markedly easier stance of monetary policy than we had anticipated. And, indeed, in our forecast of one year ago, we had not incorporated anything like the full scope of the current LSAP; nor did we have your additional forward guidance built in. The one piece of the picture that doesn't seem to fit with an overall narrative of easier-than-expected monetary policy is the stronger value of the dollar. But that may be partly explained by the fact that we had not anticipated the advent of Abenomics in Japan, nor had we foreseen the stresses currently affecting the emerging market economies.

But probably the impression that I would least like to leave you with would be that I have a tidy explanation for everything that has changed in the U.S. macroeconomy over the past year. In the world of macroeconomic forecasting, it's rare that you get to spike anything in the end zone. Steve Kamin will now continue.

MR. KAMIN.⁴ I'll be referring to the exhibit with the cover sheet labeled "Material for the International Outlook."

It is a good thing that we don't produce those elaborate multihued forecast fan charts like those issued by the Bank of England, because, if we did, I'm not sure how we'd portray the changes in the outlook since the previous Tealbook. On the one hand, incoming data for many countries have strengthened our conviction that foreign economic growth (the black solid line in panel 1) will rise from its recent subdued pace to something approaching normality over the next couple of years. On the other hand, compared with the July Tealbook (the barely discernible blue dashed line), we've notched down our baseline forecast for foreign growth very slightly in response to a surprising shortfall in Mexican GDP and heightened stresses in emerging financial markets. And on the third hand, the potential for these stresses to morph into a more serious emerging market crisis (like the alternative simulation depicted by the red dotted line) has boosted the downside risks to the outlook.

Starting with the good news, we have been heartened by incoming data for two segments of the global economy. First, developments in the advanced foreign economies strongly suggest that recovery is finally underway. Japanese GDP posted another 4 percent increase in the second quarter, while growth in the United Kingdom surged to 3 percent. The euro zone has been exceptionally well-behaved in recent months. Amid a surprising absence of bad news, credit spreads have continued to fall and GDP eked out a gain in the second quarter following a year and a half of steady contraction. We are accordingly ready to declare the euro-zone recession over, although a plethora of economic, financial, and political challenges will keep the region troubled and the recovery slow for years to come.

Another bit of good news comes from emerging Asia. At the time of the previous Tealbook, we were struggling to understand why economic growth in China and its neighbors had slowed so much earlier this year, despite the apparent pickup in the advanced economies, and we were concerned that this weakness might persist or even deepen going forward. In the event, many Asian economies, with the prominent exception of India, announced surprisingly strong GDPs in the second quarter, and we now estimate that the pace of growth in emerging Asia, excluding China, moved up to almost 4 percent in the second quarter from below 2 percent in the first. Furthermore, indicators of economic activity in China, including PMIs and industrial production, have improved in recent months. This has given us greater confidence that Chinese growth, after falling to only 7 percent in the first half of this year, will pick up to near 8 percent over the next couple of years and help support stronger activity among its neighbors as well.

So, with data from both the advanced economies and emerging Asia supporting prospects for global recovery, why did we notch down our forecast a touch? To begin with, Mexican GDP, which accounts for a sizable fraction of our trade-weighted aggregate of foreign GDP, was revised down to show zero growth in the first quarter

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

and was announced to have contracted at a 3 percent pace in the second. This poor performance appears to reflect a number of special factors, including shortfalls in government spending, uncertainty about future tax rates, and weakness in certain categories of U.S. demand. However, the underlying momentum of the Mexican economy seems weaker than we thought previously, and although we see growth bouncing back, we've revised down its pace somewhat.

Besides Mexico, we revised down growth in a number of other EMEs to reflect the financial stresses that Simon described in his presentation. To be sure, the widespread declines in currency values should offer some stimulus to emerging market economies. However, the downdrafts in emerging markets are pushing up the cost of borrowing, and this effect is being reinforced as some central banks tighten policy to mitigate the inflationary effect of currency depreciations. All told, we judge the financial stresses will exert a net drag on growth. We believe these stresses will depress growth in the most vulnerable and hard hit EMEs—Brazil, India, and Indonesia—by some ½ percentage point over the next several quarters, and will affect other EMEs to a lesser extent. Together with our response to the disappointing Mexican GDP data, this knocks down our projection of EME growth by ¼ percentage point over the next four quarters and our projection for total foreign growth by a tenth.

Although we are assuming that financial stresses in the emerging markets will start to ease sometime in the next few quarters or so, we have become quite attuned to the possibility that these stresses could intensify further instead. The ongoing normalization of interest rates in advanced economies will further reduce the relative attractiveness of investing in EMEs, and investors may also become more concerned about fundamental vulnerabilities in the EMEs themselves. In the Tealbook, we presented an alternative simulation in which mounting stresses lead to an outright financial crisis in one or more countries, triggering more broad-based contagion. As indicated by the red dotted line in panel 2, the wide chart in the middle of your exhibit, this pushes EME GDP growth 4 percentage points below baseline by early next year. Such a downturn is steep but hardly implausible: It is less pronounced than that which accompanied the Asian and Russian debt crises in 1997 and 1998, but about on par with the effects of the Mexican crisis in 1994 and 1995.

Like the euro crisis before it, a broad EME financial crisis would likely affect the U.S. economy through a number of channels: First, lower foreign incomes and more depreciated foreign currencies would depress U.S. net exports. Second, financial turmoil could well spill over into U.S. markets, boosting credit spreads and depressing equities, although these effects would undoubtedly be offset to some extent by flight-to-safety flows that pushed down Treasury yields. All told, moving up to panel 3, in the top-right corner of your exhibit, U.S. GDP growth falls below 1½ percent by early next year, boosting unemployment ½ percentage point and delaying liftoff of the Fed funds rate by two quarters. By our reckoning, this would represent a much worse scenario than the other foreign shock presented as an alternative simulation in the Tealbook—a \$35 per barrel hike in oil prices—but a less injurious scenario than the “Prolonged European recession” scenario we've described

in previous Tealbooks, in part because financial linkages to the EMEs are probably less strong than they are to Europe.

Although a broad-based EME crisis represents a material risk to the U.S. economy, a few cautions are in order. To begin with, and although the situation could turn on a dime, at present the current level of stress in emerging financial markets remains well below that associated with prior emerging market crises. Moving to the bottom-left corner of your exhibit, panel 4 shows that spreads over U.S. Treasuries on dollar-denominated EME bonds, the EMBI+ index, remain narrow by historical standards.

Moreover, most EMEs are fundamentally stronger and better managed than they were in the 1980s and 1990s. Panel 5 depicts an index of average vulnerability that we calculated for 13 EMEs, based on four key measures: the ratio of the current account to GDP, the level of government debt, the inflation rate, and the growth of private sector credit; similar measures were presented for individual countries in a box in the Tealbook. Clearly, EMEs are in a much stronger position than they were in the 1980s and 1990s. And this measure does not take into account a number of other improvements from previous decades: EMEs generally have stronger banks, less foreign-currency denominated debt, more reserves, and most of them no longer peg their currencies, so both markets and policymakers are better positioned to weather substantial financial shocks.

All that said, we know from sad experience that new crises can materialize in unexpected quarters and from unforeseen causes, and we will be watching emerging market developments even more closely than usual in the coming months. Michael Kiley will now continue the presentation.

MR. KILEY.⁵ Thanks, Steve. My briefing summarizes our recent Quantitative Surveillance (or QS) report and refers to the handout labeled “Material for Briefing on Financial Stability.” The most notable development since our previous report in May has been the rise in yields and volatility on longer-term fixed-income securities, highlighted in the upper-left panel. The increase in yields eased valuation pressures in some fixed-income markets and slowed the momentum toward duration risk-taking, as suggested by the substantial outflows from long-term bond funds. At the same time, there may be more adjustments to come, and investors did not pull back from credit risk.

Levered investors in fixed income securities reportedly incurred sizable losses during the selloff and appeared to sell securities to limit their exposures, thus reinforcing the increase in yields and volatility. A prime example is agency REITs, where assets contracted in the second quarter, as shown in the top-right panel. I’ll note that that second-quarter information is the most recent comprehensive information we have from quarterly reports. Asset sales by REITs were partially motivated to limit an increase in leverage, and aggregate leverage for the sector (the

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

black line) was little changed. Conversations with dealers indicate firms maintained access to repo funding, though responses by dealers to the Senior Credit Officer Opinion Survey on Dealer Financing Terms (or SCOOS, which includes developments since the end of the second quarter) indicated some tightening in terms on lending and a decline in the use of leverage.

Respondents to the SCOOS also reported that liquidity deteriorated during the selloff period across a broad range of fixed-income assets, including Treasury securities, corporate bonds, and agency MBS. Dealer behavior appears to have been a contributor to the decline in liquidity, as they seemed willing to deploy only limited balance sheet capacity to make markets. One rough gauge of the reduction in liquidity over the period is the increase in the price-impact coefficient for Treasury securities, reported at the middle-left, where price impact is the change in prices associated with a change in net order flow. Starting in May and going through June, the price-impact coefficient jumped notably from the very low levels seen late last year and early this year.

The rise in longer-term yields brought about sizable losses on the securities in banks' available-for-sale (AFS) portfolios (the middle-right panel), notably at the largest banks. These losses wiped out the gains accrued in recent years, but were small compared with firms' capital. Also, the book value of banks' holdings of Treasury and agency securities, not shown, has declined modestly since May, reportedly, in part, as banks have sought to reduce their duration exposure.

The jump in Treasury yields flowed through to yields on corporate debt, and changes in spreads (shown in the bottom-left panel) since May do not convey a notable shift in investors' appetite for credit risk. As shown to the right, issuance of riskier corporate credits declined in July and August. Issuance of speculative-grade nonfinancial corporate bonds (the red bars) was a bit below its pace in the first half of the year. Issuance of leveraged loans (the blue bars) slowed notably, albeit only to the relatively robust levels of last year. Looking forward, the calendar for corporate bonds and loans has expanded significantly, in part to fund M&A and LBOs. Market participants attribute some of the crowded fall calendar to efforts to get ahead of FOMC decisions.

Your next exhibit steps back from recent developments to look at the level of vulnerabilities within the financial system. Turning first to asset valuations, we continue to see only pockets of stretched valuations; indeed, the re-pricing in the Treasury market has greatly reduced valuation pressures there. As reported in the top left, price-to-rent ratios in the housing market have edged up a bit but appear reasonable on the whole, despite the substantial rise in house prices over the past year. Digging down further into the assets examined in the QS report, perhaps the most notable area where domestic valuation pressures may be significant is farmland, although readings on farmland debt, despite recent increases, suggest the financial system has quite limited exposure.

The next three panels focus on leverage and short-term funding in the nonfinancial and financial sectors. As highlighted in the top-right panel, private nonfinancial credit relative to GDP has moved sideways, on net, at a below-trend level, with the caveat that trends are hard to gauge. This factor and the more general improvement in household and business balance sheets point to somewhat limited risk from private nonfinancial leverage. Indeed, tight underwriting in recent years, with only relatively safe households having access to credit, implies that the financial system's exposure to household credit risk is probably even lower than the simple deviation from trend would imply.

Banks have also reduced leverage in recent years, as can be seen by the increase in loss-absorbing capital (relative to risk-weighted assets) shown in the middle-left panel. More generally, leverage within the financial system relative to pre-crisis levels appears moderate, and the SCOOS indicates that some of those actors that had shown increased willingness to deploy leverage earlier this year, such as hedge funds, stepped back a bit over summer.

In addition to reduced leverage, the financial system appears to be less reliant on short-term wholesale funding, as can be seen in the middle-right panel, which shows that such funding across the entire financial sector has fallen substantially. At banks, this shift is importantly related to the increase in deposit funding, which historically has been "stickier" than wholesale funding. The sharp drop in money market fund liabilities and a decline in dealer-intermediated finance, which relies heavily on short-term wholesale funding, are also important factors. Decreased reliance on short-term wholesale funding suggests that cyclical risks from liquidity pressures are reduced. Nonetheless, structural vulnerabilities, including those associated with the run-prone structure of money market funds, remain significant. The comment period on the money market reform options proposed by the SEC on June 5 closes today.

On balance, and as noted in the bottom panel, the vulnerability of the financial system, at least from a cyclical perspective, appears moderate, as loss-absorbing capital has increased and the reliance on short-term funding and the exposure of financial institutions to nonfinancial credit risk have decreased. Nonetheless, there are a number of potential shocks on the horizon that could prove challenging to markets and institutions, including a failure to raise the debt ceiling, financial instability in emerging markets, and geopolitical risks in the Middle East. On the policy development front, staff continue to pursue initiatives related to those pockets of concern we have identified. The staff are looking to further evaluate risk management at agency REITs and, in addition to discussions with dealers, have broached the possibility of collecting data with the Office of Financial Research at the Treasury Department. In addition, banking agencies' staffs are working to ensure compliance of banks with the guidance for leveraged loan issuance released earlier this year and will be following up with banks based on the results of this year's review of Shared National Credits. Finally, the staff throughout the System are continuing to scrutinize interest rate risks at banks, and are working to evaluate exposures to potential problems in emerging market economies. Chris Gust will continue our presentation.

MR. GUST.⁶ I will be referring to the packet labeled “Material for Briefing on the Summary of Economic Projections.”

Exhibit 1 shows the trajectories of your forecasts for key economic variables. The top panel shows a pickup in GDP growth over the next couple of years. Subsequently, in 2016, it appears to start to converge toward its longer-run rate. Your projections for the unemployment rate, shown in the second panel, decline gradually over the forecast period, reaching levels by the fourth quarter of 2016 that the majority of you view as still somewhat above your individual judgments of the longer-run rate of unemployment. The bottom two panels show inflation rising over the next few years; almost all of you see it remaining at or below the Committee’s 2 percent objective.

Exhibit 2 compares your current projections with those in the June SEP and with the Tealbook. The top panel contains what is probably the most notable change in your projections since June, which is the reduction in the central tendency for real GDP growth in 2013 and, to a lesser extent, in 2014. While a number of you now estimate that growth in the first half of 2013 was a bit lower than you expected in June, your projections for H2 growth are, on average, a substantial 0.4 percentage point lower than in June. Many of you noted that weaker-than-expected incoming data contributed to the downward revisions, while some pointed to higher interest rates or tighter financial conditions as key factors. The central tendencies for the unemployment rate, shown in the second panel, and for inflation, shown in the two lower panels, are relatively unchanged from June. The Tealbook forecast for real GDP growth is near the upper end of the central tendencies over the projection period, with the unemployment rate in the Tealbook forecast moving just below the central tendencies in 2015 and 2016. For inflation, the Tealbook projections are near the lower ends of the central tendencies throughout the projection period.

Exhibit 3 provides an overview of your assessments of the appropriate path for the federal funds rate. As shown in the top panel, three participants believe that the federal funds rate should increase next year, but the rest of you judge it will not be appropriate to begin to increase the funds rate until 2015 or later. The middle panel of the exhibit provides your current assessments of the appropriate target for the federal funds rate at the end of each year of the forecast period and over the longer run. Those three participants who see the first tightening occurring next year also judge that the appropriate level of the federal funds rate in 2016 will be at their individual assessment of its longer-run level. In contrast, all of the participants who see the first tightening in either 2015 or 2016 believe that the federal funds rate at the end of 2016 should still be below its longer-run level.

With regard to securities purchases, most of you indicated that your assessment of appropriate policy is about in line with the assumption in the Tealbook baseline forecast, in which the pace of asset purchases begins to slow this year and ends by the middle of 2014, bringing the cumulative amount to about \$1.2 trillion. Two of you,

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

however, prefer a larger purchase program, while one additional participant does not see any reductions in the pace as warranted until next year. In contrast, two others judge that the pace of asset purchases should be slowed or stopped sooner than assumed in the Tealbook baseline, implying a smaller cumulative amount of purchases, and another believes that the size of the balance sheet should be shrunk more quickly than the Tealbook anticipates.

Exhibit 4 depicts the economic conditions that you anticipate at the end of the year in which you judge that it will become appropriate to raise the federal funds rate above its current target range. Recognizing that the departure date from the effective lower bound may occur before year-end, the series shown are only illustrative of the conditions around that date. Your projections for the unemployment rate in the fourth quarter of the year of liftoff range from 5.2 to 6.4 percent, with a median of 6 percent, while your inflation projections are clustered between 1.6 and 2.0 percent, with a median of 1.8 percent. All of you project that the unemployment rate will be below the Committee's 6½ percent threshold at the end of the year in which you view the initial increase in the federal funds rate to be appropriate, and all but one of you judge that inflation will still be at or below the Committee's longer-run objective.

The final exhibit reviews your assessments of the uncertainty and risks surrounding your economic projections. As shown in the top two panels in the column on the left, most of you judge the current level of uncertainty about GDP growth and unemployment to be broadly similar to the average level over the past 20 years, although four of you continue to see it as higher. Most of you also judge the level of uncertainty about inflation, shown in the lower two panels in the column on the left, to be broadly similar to the average of the past 20 years. Turning to the top panel in the column on the right, more of you now, compared to June, see the risks to GDP growth as weighted to the downside. Further down the column on the right, most of you see the risks to the unemployment rate and inflation as broadly balanced. In assessing the uncertainty and risks to the outlook for real activity and prices, participants noted a range of issues surrounding U.S. fiscal and monetary policy as well as the tightening in financial conditions in recent months. Thank you. That concludes the staff presentations.

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

President Fisher.

MR. FISHER. I will defer to Governor Yellen.

MS. YELLEN. I would like to offer an observation on our current SEP submissions and specifically on the projections for 2016. Most participants project that by late 2016 the economy will be very close to maximum employment. The median projected unemployment gap, calculated as the unemployment rate less that participant's estimate of the longer-run normal

rate, is one-tenth of a percentage point. Also, most participants expect that inflation will be very close to 2 percent. But the median funds rate projection stands at 2 percent; that's 2 percentage points below the median estimate of its longer-run normal value.

The SEP funds rate projections for 2016 will receive a good deal of attention when they are released tomorrow, and the public may find this feature of our projections surprising and even puzzling. For example, suppose the public uses the Taylor (1999) rule without inertia as a benchmark. If they plug in the unemployment and core inflation gaps implied by the midpoint of the central tendencies for these variables, and if they further use our median long-run normal value for the funds rate of 4 percent, they will discover that this rule prescribes a funds rate at the end of 2016 of 3¾ percent, compared with the median SEP projection of only 2 percent.

Now, of course, each one of us presumably knows exactly how and why he or she arrived at their individual funds rate projection, but the public could infer different rationales, so I think it's worth discussing and trying to be clear among ourselves about why our funds rate projections are so low. One possible rationale is that these funds rate settings reflect a commitment policy in the spirit of Woodford and the optimal control policies reported in the Tealbook. Such a policy post-2016 would lead to sustained overshooting of inflation and undershooting of the unemployment rate. But looking at the individual projections, it appears that, with very few exceptions, they are more in line with monotonic convergence of the unemployment rate back to its longer-run normal value and inflation to 2 percent as in the Tealbook baseline. Speaking for myself, I didn't actually incorporate sustained overshooting in my own SEP projection. Rather, my policy projection reflects the view that the headwinds afflicting the economy will continue to restrain economic growth even in 2016, so that a return to full employment and 2 percent

inflation at that time is only attainable with the real funds rate remaining below its long-run equilibrium value.

I think that for the effectiveness of our forward guidance, it likely matters which of these two interpretations is the one that the public infers. If we are writing down projections that incorporate an important element of commitment to time-inconsistent policies, the public might question whether it is plausible that future committees will deliver on these promises, especially with the period of changeover in the Committee's composition ahead of us.

In contrast, if most of us are writing down low funds rate projections for 2016 primarily because we anticipate that the headwinds will abate only gradually, it makes sense for us to communicate that our policy projections are driven by this feature of the economic outlook and, therefore, are approximately time consistent. Provided the public broadly shares our economic outlook, it should conclude that future Committees will be likely to follow this path, and this anticipation should strengthen our forward guidance.

CHAIRMAN BERNANKE. Governor, which headwinds would you emphasize, if I was asked?

MS. YELLEN. I will return to this in the economic go-round. I will just say, for the moment: housing, financial conditions, and fiscal policy.

CHAIRMAN BERNANKE. Thank you. President Fisher.

MR. FISHER. I want to come back to Steve Kamin, and make sure I clearly understood what you said. I believe what you said is that financial conditions have not tightened in recent months in the advanced countries or emerging Asia. But there has been financial stress in Brazil, India, Indonesia, and, to a lesser extent, elsewhere. Is that correct?

MR. KAMIN. Well, let me nuance that a little bit. I was actually not referring to financial conditions in advanced foreign economies at all.

MR. FISHER. You used the word “tightening.”

MR. KAMIN. If I did, with respect to financial conditions for those countries, I may have misspoken. But what I did note is that for the advanced foreign industrial economies, the economic news has been on the good side and has kind of strengthened our conviction that these economies seem to be on a recovery path. I didn’t mean to refer specifically to financial conditions in those economies, although, as a matter of fact, it looks like financial conditions in Europe have continued to improve a bit on net. And that has been part of what has supported the recovery.

MR. FISHER. And that would be true for Japan as well?

MR. KAMIN. And that would be true for Japan as well—not necessarily over the intermeeting period per se, but just over the past few months—just looking at the yen continuing to be weak, which is supportive of growth, stock prices up, and yields staying low.

Now, for the emerging market economies, broadly speaking, if you look at conditions since May, before the recent run-up, almost all of them have experienced some depreciation of currencies, some increase in yields and borrowing costs, and some capital outflows as measured by flows into and out of emerging market bond funds. That said, different economies have been affected to different degrees. And certainly Brazil, India, Turkey, Indonesia, and maybe South Africa, have been among the ones that have been hardest hit by this over the past few months, with other economies like Korea hit less by it. And in fact, over the intermeeting period, a couple of those currencies actually experienced some strengthening. I hope that answers your question.

MR. FISHER. It was very helpful in terms of understanding when we say “tightening of financial conditions” what we are referring to. I appreciate that.

MR. KAMIN. And it’s very important to understand that it has not affected all countries to the same degree.

MR. FISHER. Thank you.

CHAIRMAN BERNANKE. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. I have a question for Michael Kiley. Your chart on corporate bond spreads generally shows a kind of comforting decline. A couple of my directors reacted with surprise to the Verizon deal this past week and the spreads that were in that deal. Can you explain if there is any significance to that particular deal and the epic spreads that were written into that?

MR. KILEY. There may be others who know a little bit more about that particular aspect of the deal. My understanding is that the spreads were a little bit high at the initial offering, and that there was a lot of price action on the initial day. The anecdotes are that they really wanted to get the deal done and for it to be well received. I personally was surprised to see so much price action on the first day—the spreads really narrowed in the secondary market. And I don’t know if there is more to say about it than that.

CHAIRMAN BERNANKE. Vice Chairman.

VICE CHAIRMAN DUDLEY. I think that’s exactly right. My understanding was that the size of the deal was so large that they priced it at an attractive level to make sure the deal got done. And then, of course, when the deal did get done and bonds were absorbed—people didn’t know whether the bonds would be absorbed easily—then the market rallied subsequent to that. I think it was really the size of the deal that drove initial pricing.

MR. FISHER. Mr. Chairman, just a comment, may I? Originally, they went for \$20 billion. They received over \$100 billion in bids. They took down \$43 billion. Four months ago, Apple did \$15 or \$14 billion, and that was spectacular. I think the reading of Vice Chairman Dudley is correct. The size was enormous, and the question was how it would be absorbed. But in the aftermarket, again, the spreads narrowed, as you've pointed out.

I don't know what your directors' concerns were. It indicated a voracious appetite. Verizon is a BBB-rated creditor or BAA-plus. So it's not totally pristine in terms of its balance sheet. And it also wanted to pay \$130 billion for 40 percent control; previously they had offered a fourth of that and been turned down. It shows you how conditions are in certain areas of the market. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. President Evans.

MR. EVANS. These are the financial-stability questions?

CHAIRMAN BERNANKE. Any question to the staff that you would like.

MR. EVANS. Thank you, Mr. Chairman. In March, we had a discussion about the importance of macroprudential actions and supervisory actions for addressing potential financial instabilities, especially in an environment with low interest rates. I didn't read the paper, so I can only take note, but apparently former Board Vice Chairman Don Kohn made some interesting comments the other day at Brookings. If the headlines were right, he mentioned that, if monetary policy is set incorrectly, it can generate imbalances that would be so strong that even regulatory or supervisory actions can't really mitigate them. I will have to go dig that up because I thought that was sobering, to the extent that that's true.

Do we feel comfortable that the additional supervisory actions that we have taken since March have been addressing the financial instability concerns that we pointed to last March? I

think the answer is “yes,” because I am aware of a number of actions that have been taken, but maybe if somebody could opine about that, that would be helpful.

MR. KILEY. There may be a range of views. I think in general we are comfortable that things are moving in the right direction, that when pockets are identified, things are done. I gave the example of leveraged lending. I would like to bring that up for two reasons. One, things are being done. It is being looked at. That’s good because we do think there is an aggressive demand for credit. I would also note there that the guidance was in the works for a very long time. We didn’t identify that in February and say, “Oh, let’s do something by March.” It was actually a multiyear process, and I think that may be indicative of the types of concerns that former Board Vice Chairman Kohn expressed. There are limits to how different policies work, and you need to take an overall view of how things are going, and use all of the tools you have available.

MR. EVANS. Thank you.

MR. TARULLO. I don’t know if Mike Gibson wants to speak to anything.

CHAIRMAN BERNANKE. All right. At any point, if a staff member has a comment, please stand and let us know. We’re at President Williams.

MR. WILLIAMS. Thank you, Mr. Chairman. I have a couple of questions for Mike Kiley. Previous QS assessments have noted the risk of spikes in interest rates. Of course, in those earlier assessments, there was a lot of discussion around the source of the spike being important and spiking rates having important implications for financial stability. We’ve just had a significant spike in interest rates going back to, say, May, but the analysis from the Board and others is it’s mostly in term premiums, not expected interest rates or other factors. My first question really is, what did we learn from what’s happened since April–May in terms of the

effect of the spike in interest rates, given the source of the shock? And, related to that, how has that affected smaller banks and regional banks, not just regarding financial stability but more broadly?

And if I can, let me just ask a quick second question, which is around your indicators of vulnerabilities. I am impressed with your courage to draw trend lines around clearly nonstationary series. [Laughter] And I notice they have interesting, colorful shapes. But what I really am asking is a serious question. What do you want us to look at, or how do you and your colleagues think about this? Is the point of having the trend lines to have a point of reference to some previous peak or trough? Should we be looking at growth rates or levels? I open up that question to you.

MR. KILEY. Let me take care of your second question first. I'll introduce a comic element for an econometrician. The HP filter handles $I(2)$ series, so there's no concern about nonstationarity there on the trend. [Laughter] But more seriously—

MR. KOCHERLAKOTA. That's one of the funniest things that has ever been said at an FOMC meeting. [Laughter]

MR. EVANS. But only a few of us understand it.

MR. KILEY. One of the reasons I put the trend on that second chart, the one on the middle right, was to raise exactly that question and to highlight the point I emphasized when looking at the credit-to-GDP ratio. We don't know the trends for these series, and we don't know the sustainable levels. We could be way off. What should we look at? We should look at the levels relative to trends. We should back-test how good those sorts of estimates are, certainly in credit-to-GDP space. That sort of thing has been done by many researchers. I think the conclusions from that kind of back-testing of what kind of signal we get from a measure like this

are a little bit mixed. They suggest that we get some information from a signal like this, but also that we should be looking at credit growth and at a broader set of developments. I suppose I would say the same thing for the other series. These are not a sufficient set of statistics, but they highlight key things that we look at: What's going on with regard to leverage in the nonfinancial sector and hence, the credit risks of the borrowers that, if economic conditions deteriorate, could spill over into losses for financial institutions? How leveraged are the financial institutions?

The panel at the middle-left gives a simple measure for banks. We don't necessarily have these measures for a wide range of other institutions, but we have other measures and hold conversations with market contacts in order to get a sense there. Short-term funding, shown on the middle-right, is a measure that we haven't presented before in a briefing like this. It's interesting. It has been used in some recent research by academics. It's fairly comprehensive because it includes banks, broker-dealers, mutual funds, money market funds, insurers, pensions, and you get a sense of what's going on in the whole sector. There's also a disadvantage of this measure because it's a whole bunch of actors who behave a little bit differently. So we wouldn't look only at something like this, but we've been trying to show a little bit of mercy in that the QS report might be slightly shorter than it has been at some points in the past, but it does have a lot of stuff in there. I look at every single one of them. I might not remember every one, but I'm sure that, across the staff, we do a pretty good job of looking at all those things. That's a pretty general look-at-everything answer, but I think that's really important because these are new areas.

MR. WILLIAMS. Mike, if we saw a doubling or even more than a doubling of this net short-term wholesale debt over the next six months, that would put it back on trend, but would

you also say, “Hey, doubling in six months is worrisome”? That’s what I’m trying to get at. Should I be looking at the change or should I be looking—

MR. KILEY. I would be very worried about that. I wouldn’t be able to pinpoint exactly why, and I would have to think a lot harder, but I would be, yes.

Let’s move back now to the question on what’s happened since interest rates increased. A memo was sent to the Committee in March saying interest rates can go up. In fact, they did. We highlighted that that would lead to losses at banks of a certain size on their available-for-sale portfolios if that kind of thing happened. Given the size of the increase in interest rates, it was in the ballpark of what we expected. It wasn’t a huge shock. REITs were adversely affected. There was amplification in the effect on the market through them having to shed assets. I would say that that was as expected directionally, but I think people think that REITs actually weathered this storm a little bit better than what was expected.

Now, that leads to the question of whether or not the next 100 basis point move, if there were one, would be the same as the last. As you eat into capital, you might get closer to a trigger point, and the next 100 basis points could be tougher for some levered investors. However, this may have been a wake-up call and people may step back from positions, and so the next 100 basis points could be less worrisome for those sorts of actors.

I guess another sector that we highlighted was insurers. To date, we don’t get high frequency financial reporting on insurers. It’s a slow-moving sector. Certainly their stock prices have reacted positively to the increase in interest rates, which may reflect an ability over time to invest at higher yields and meet some of the liabilities that they have, and it also may reflect the lack of disintermediation from their products because long rates have gone up. They haven’t

gone up so much to make the products that they offer unattractive and then to lose the money.

We haven't seen any deposit-type outflows or heard stories of that.

I'd say directionally things are pretty consistent with what we expected in a variety of areas, actually quantitatively as well. Just to highlight, from a financial stability perspective, 100 basis points is a big deal for monetary policy. We were certainly concerned. We didn't write down huge losses for a 100 basis point spike in interest rates, and I guess that's all I would have to say.

MR. WILLIAMS. The punchline is that, based on the 100 basis points, we didn't get any big negative news.

MR. KILEY. We didn't get any big negative news, and I think there's some positive news. Maybe one piece of negative news, and I'll let Simon jump in, is we certainly had some concerns that there would be some liquidity constraint problems in markets. Nonetheless, maybe we expected dealers to make markets a little bit better than what we saw. That made the situation perhaps painful for some actors, but it didn't rise to a stability concern.

MR. POTTER. I think the one thing was the global carry trade and how that unwound. That probably wasn't featured in the report, which is why we're looking at other countries right now, but that would be the most surprising.

CHAIRMAN BERNANKE. Thank you. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. I thought this chart "The Evolution of Various Key Activity, Inflation, and Financial Projections" that David presented was very interesting and useful. I had questions about the evolution of the employment-to-population ratio. As you noted, the employment-to-population ratio forecast now for the end of 2014 is about 0.2 percentage point higher than it was in the September 2012 meeting. There was

a big jump in the employment-to-population ratio between August and September of last year by about 0.3, in fact, from 58.4 to 58.7 percent. I wondered if that change between August and September might actually be influencing the bump up in the forecast.

Another question that relates about the 2015 employment-to-population ratio—I don't have any electronic devices so, I was actually forced to try to multiply by hand [laughter], which was painful, painful, painful—but I was getting something on the order of 59.6 percent. That would be a huge increase in the next two years relative to what we've seen since the recovery began. I guess the first question is: What is the implied employment-to-population ratio in 2015? And, second, why is the behavior of labor force participation and the employment-to-population ratio going to be so different over the next couple of years as opposed to the preceding couple of years?

MR. WASCHER. The forecast for the end of 2015 for the employment-to-population ratio is 59.5 percent, so you were close.

MR. KOCHERLAKOTA. Okay. I'll have to go back and do that again. [Laughter]

MR. WASCHER. In terms of the participation rate and the employment-to-population ratio, there is a long-run downward trend in the participation rate that we are carrying through the forecast. Some of that is demographic, some of that is other things that we think are more structural in nature. And that contributes to the different pattern.

The pickup in the employment-to-population ratio is bigger than in recent years. I think that reflects our view that the economy is going to pick up and employment growth is going to pick up and is going to generate the job gains to push that up. And it really is more of a cyclical improvement in the employment-to-population ratio than we've seen in the past. And the other part of that is, while we have this long-run downtrend in the participation rate, some of the

increase in employment we think is going to come from entry back into the labor force, and that is also going to contribute to it.

MR. KOCHERLAKOTA. I see. So there is a long-run trend that is being offset by—

MR. WASCHER. Yes. And so the participation rate moves back toward its declining long-run trend over the forecast period.

MR. KOCHERLAKOTA. Okay. Thank you.

CHAIRMAN BERNANKE. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. My questions are also about this same page here, “Evolution of Various Key Activity, Inflation, and Financial Projections,” which I found fascinating. I love this summary. Let me see if I can get this right. The way we have it is, real GDP growth, not changed very much in actual or forecast from last September; 10-year and mortgage rates are not changed much from last September. But if you look at the stock market, it’s up 10 percent, and projected to go higher. And housing prices, not shown, are up 15 percent. So there is a big wealth effect here. But as I understand it, that doesn’t really affect GDP according to this analysis. Wealth is up a lot. Rates haven’t changed. GDP doesn’t change.

MR. WILCOX. Resource utilization is tighter at the moment than what we had projected. Let me see if I can get this sign right. We have taken down the level of potential GDP by about ½ percentage point. So we have the GDP gap a little narrower at the moment.

We did some of that in this most recent projection, but the revision relative to a year ago is bigger than what we just did in the most recent projection. And measured by the unemployment rate, even taking into account the fact that we’ve moved down our natural rate, our unemployment rate gap is narrower. All of this is a little murky, and we haven’t spent a huge amount of time on it. I’m going to run up the white flag pretty quickly here. [Laughter]

I think it's consistent with the hypothesis that we have an economy that currently looks like it is modestly tighter than what we had before, with interest rates that are not higher than before. I thought, gee, that's kind of an interesting juxtaposition, since I would have thought in the abstract, if you only told me that the economy was a little tighter, I would have expected long rates to be projected to be higher. And that's why I posited the possibility that an easier stance of monetary policy might be part of that, since we hadn't incorporated that major easing in the stance of monetary policy that you took a year ago into our September 2012 Tealbook projections.

MR. BULLARD. My question may be simpler. This is a wealth effect on the order of \$10 trillion or so. So you're telling me this has no impact on our outlook?

MR. WILCOX. No, I'm not saying that. What I'm saying is, that was probably offset by a bunch of other stuff that I haven't taken into account and haven't had the time to delve into.

MR. RUDD. Could I make one interjection? I'm sorry. The exchange rate being higher offsets about two-thirds of the wealth effect in rough terms. So we also have a higher exchange rate relative to a year ago. Item 9 on the table there.

MR. BULLARD. I was taking it to be about the same.

MR. RUDD. Item 9 shows the path of the exchange rate is about 3/4 percent on average higher over the projection period. And by our rules of thumb, that would offset roughly two-thirds of the wealth effect from the higher stock and house price paths.

MR. BULLARD. Interesting. Thank you.

CHAIRMAN BERNANKE. Any other questions? [No response] If not, I understand coffee is ready. Why don't we reconvene at 3:20? Thank you.

[Coffee break]

CHAIRMAN BERNANKE. Okay. Before we begin our economic go-round, four times a year we have an opportunity for people to make comments or raise questions about financial stability issues. And I have President Rosengren on my list first.

MR. ROSENGREN. I am just going to make two quick comments. First, I want to thank Steve for talking so much about emerging markets. That is actually what I wanted one of my comments to be on. Being in Boston, I'm the beneficiary of a wide number of central bankers and economists from both Europe and emerging markets who pass through over the course of the summer. And when they talk about "the emerging markets' swoon," it is not as if it's an exogenous shock for emerging markets, it's more "The Fed has caused this problem," that frequently comes up in conversation. And I think it probably is worth, over time, thinking about how our various policy tools do impact emerging markets and how it reverberates back, because certainly the perception abroad seems to be that quantitative easing and some of our other tools have a disproportionate impact not only on our economy but on their economies as well. And this is probably an area where we could do some more work that clarifies what is a reasonable expectation. Certainly, our own assumptions of the effects on our own economy would not be consistent with the magnified effects that they think our policies are having on some emerging markets. And I think there is some academic research that has been moving in this direction, but it is probably a topic that, if I'm hearing it in Boston, I can imagine the Governors and Vice Chairman Dudley are hearing it a lot in their travels as well. And it would be nice to be a little bit more armed with data that could highlight how our tools might affect other countries as well as our own. Just in terms of future work, I think that would be very useful, and it sounds like you are already doing a fair bit in this area.

MR. KAMIN. We are indeed, and we will be doing more.

MR. ROSENGREN. Good. My second comment gets a little bit to David Wilcox's initial comments where he was talking about fiscal policy. Mine is actually more on state and municipal finances. Frequently we hear about states like Illinois, but I think it's worth keeping an eye on Puerto Rico, and I'm sure we are keeping an eye on Puerto Rico. Puerto Rico has high debt burdens, it has a dependence on market financing, and there are fiscal issues and the risk of downgrade to noninvestment grade status. Financial stability concerns arise because roughly 80 percent of muni mutual funds hold Puerto Rican debt. In fact, the recent increases in the yields would indicate that market participants have already become increasingly concerned about the outlook on that debt. I think on the heels of the Detroit bankruptcy, a Puerto Rican default, or even a near default, particularly at the same time that fiscal policy is going through some travails, as were highlighted in David's comments, could potentially have an impact on investor confidence and possibly spread more broadly through municipal financial markets. So it may just be something to keep an eye on. Thank you, Mr. Chairman.

MR. TARULLO. Can I ask Eric a question?

CHAIRMAN BERNANKE. Certainly.

MR. TARULLO. Eric, do you have a prior on that emerging market issue, or were you just suggesting that we need collectively to think more about it and have better answers than we have had?

MR. ROSENGREN. It is primarily focused on quantitative easing. When people come and talk about the impact of our quantitative easing, I talk about roughly what our estimates are in terms of interest rate effects and the broader effects on the economy, which are positive but relatively modest. They seem to think that, one, our estimates are much lower than their own

estimates, and, two, that the impact on their own economy is much larger than the impact that we are attributing to our economy.

Looking at the timing effects, it does seem you could make a consistent argument that the time that the emerging markets started to swoon was around the time that we started talking about our tapering program. It seems like it is worth getting a better sense of what those connections are, what the magnitudes are. I know what the magnitudes are from my own staff in terms of what we're thinking about for the effects on our own economy. But thinking about how it might reverberate and how that could potentially cause some of the financial problems to actually become more severe in emerging markets and possibly circle back to us—that kind of reverberation effect is something I haven't spent a lot of time thinking about, but it certainly is something that colleagues from abroad seem to be spending a lot of time thinking about.

MR. TARULLO. Steve, I assume we have looked at the impacts on the way in—that is, as we were starting LSAPs and the flows into the emerging markets.

MR. KAMIN. Yes. Well, we've been researching the impact of our easing on capital flows to EMEs. Our sense is that certainly our easing has been one of the factors pushing capital toward EMEs, but not the only factor. Another is just that they have higher steady-state rates of growth than we do. More recently, we have been looking at the factors that have been at play as rates have been rising. Basically, we have been looking at the relationship between emerging market asset prices, both on the way down and on the way up. Our sense is that probably EME asset prices moved up a bit more than might be explained just by our easing in the early period. And then with the swoon, they have probably moved down a bit more than might be explained by the run-up in U.S. interest rates. So this is something we are actively researching.

MR. TARULLO. Thank you.

CHAIRMAN BERNANKE. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. I have a few comments on financial stability. I enjoyed Mike's presentation. It was very useful. I especially liked some of the discussion at the very end of what staff were doing in terms of following up on initiatives related to pockets of concern. It's useful to see the mapping between what's being generated in the report and actions being taken. I thought President Evans's questions were useful along those lines as well.

And I also think that the discussion of financial stability that appears before the alternative simulations in the Tealbook is a great starting point for trying to build in financial stability considerations into our thinking about monetary policy. I've mentioned this before. I continue to think that it would be useful to translate the discussion into at least crude quantitative measures of risk to prices and employment. And by crude, I mean something like, is there a 1-in-1,000 chance of a financial crisis with significant macroeconomic consequences in the next two years, 1-in-100 chance, 1-in-10 chance—orders-of-magnitude kinds of ideas.

My next comment is about this issue of using monetary policy to mitigate possible financial instability. We often hear the suggestion that we can mitigate incipient financial instability by tightening monetary policy, but there's quite a tricky term issue here, right? If it's right on us, we are not supposed to tighten. We're supposed to ease. So right away, you see subtleties there. But I think we've seen tightening of monetary policy since early May. Ten-year Treasury yields have risen by more than 100 basis points. This increase has been accompanied by at most a slight improvement in the macroeconomic outlook. So it seems reasonable to interpret the increase in rates as largely attributable to a noticeable tightening of monetary policy. We see this, too, in the inflation breakevens. The Fed is now expected to keep interest rates

higher for a wider range of macroeconomic outlooks. So when I think about tightening, I don't just think about our benchmark outlook. I think about what we are going to do for a wide range of possible outlooks, and I think we're expected to follow a tighter policy for a wide range of outlooks, and that's reflected, as I indicated earlier, in the higher term premium as well.

But anyway, how has this tightening of policy affected financial stability? Now, we have a lot of different tools, so it's not a suggestion about only one of them, but the effects seem quite mixed. I would say that measures of risk and risk appetite have actually risen in the past three or four months. If you look at the equity premium, it's fallen even though the VIX has risen. Spreads of risky bonds really haven't changed very much, so it may be hard to read much into that. We heard reports that the increase in long rates was actually increasing incentives to reach for yield among financial institutions. The basic problem here was that income from mortgage duration had fallen sharply because of the increase in mortgage rates, but, at the same time, the financial institutions could not earn that much interest income from medium-term loans because interest rates were still very low for medium-term loans. So tightening policy at the long end of the curve had really put more pressure on profits, and in that sense exacerbated the reaching-for-yield problem.

I've highlighted some senses in which we haven't seen a diminution in financial system vulnerabilities because of the tightening of monetary policy. There are also ways in which the increase in long rates has reduced financial system risk. I won't talk about that. I'm not taking a stand on whether they, on balance, increase or decrease risks. My point is a more limited one. We don't have a clear understanding of how monetary policy is going to affect financial system vulnerability. This idea that's out there in the blogosphere—and actually even if you go to the movies there's this idea out there—that if you tighten monetary policy, you can control financial

system risks. We need a lot more understanding and a lot more study of this before we can reach that simple conclusion.

My own view is, with all of these uncertainties, I wouldn't want to rely on monetary policy tightening at this point as a way to deal with these risks. The best way the FOMC can ameliorate financial system risks is by eliminating monetary policy uncertainty. Unfortunately, I feel we've moved in the opposite direction on that in the past few months. We've increased uncertainty about monetary policy as opposed to decreased it. In my view, we can best reduce that policy uncertainty by following a clear strategy that's focused on achieving our dual mandate objectives over the medium term, but I'll talk about that more tomorrow.

CHAIRMAN BERNANKE. Thank you. President George.

MS. GEORGE. Thank you, Mr. Chairman. In the interest of time, I'm going to abbreviate my comments. I would say to President Rosengren there were some papers that came out of the Jackson Hole Symposium that I thought were relevant to his issue with the EMEs.

The points I wanted to make really are all present in the QS report. Just a reminder that even as we've seen the uptick in rates that took some of the valuation pressure out of the market, there are a couple of areas that I still am focused on, and one has to do with the earnings pressure that comes from low net interest margins in this rate environment. I'm particularly looking at a group of banks that are very prominent in my region, and that is community and regional banks. We're continuing to see a growing asset–liability mismatch, which increases the interest rate risk exposure; I'm looking at continuing longer-term loans being booked over this period, in addition to longer-term securities.

The other area that I would just elaborate on is farmland prices, and the thing I would note here is that these prices continue to grow despite the fact that expectations for falling farm

incomes are becoming more widespread at this time. When I look at these land prices now, they're well above what we saw in the 1980s. The price-to-rent ratios exceed the long-term averages really by record amounts in many of the Corn Belt states. Acknowledging that there are probably not, at this stage, broad stability risks because of the lack of leverage, I think the implications of any decline in these valuations at a regional level could be significant.

Finally, I would just echo again some of the comments about the risk we see in the leveraged loan market. I know supervisors are looking at that, but those really are symptomatic of this reach for yield with the covenants and the high debt multiples that we see. Thank you.

CHAIRMAN BERNANKE. Thank you. President Evans.

MR. EVANS. Thank you, Mr. Chairman. I had mentioned before that I was concerned about monitoring the credibility of our forward-guidance tools for monetary policy. Based on some of the comments Simon made in his Desk presentation, it looks like the announcement of potential reductions in our flow purchase rate have altered markets' assessment of how long we're going to subscribe to our forward-guidance threshold. I don't know the size of it, but that's a little bit of a concern. I think that's an unintended reaction to the communications that we've made in the past three or four months. But then I'll note Vice Chairman Dudley's comment, also during that discussion. He mentioned anecdotal comments that maybe, because of financial stability issues, we might have to back down on the credibility of our forward-guidance threshold of 6½ percent. So that's one reason why I thought it was important to ask about what the status of our regulatory and supervisory behavior has been toward potential financial instability developments in these markets because it has credibility implications for our monetary policy tools.

I think this has been an important discussion. We've benefited greatly from these past several financial stability briefings. We are monitoring so many things. Just going back to the March briefing, we had a list of concerns. What if interest rates go up by 100 basis points? And we've gone through that experience. It was a little rugged, but there's no more risk because of that. Maybe the risk is a little less. Maybe we're in a better position because of that. There are supervisory actions that have been taken. Perhaps they were long intended with the SNC leveraged loan guidance, but there is also interest rate risk guidance. So I think that's helped. We have seen difficulties with agency REITs from the increase in interest rates and, whether that was self-correcting or it just wasn't as big of an effect as we feared, that was a good thing. There are market liquidity issues that we've been concerned about due to Dodd–Frank, and now the evidence is that it's actually just that dealers are unwilling to engage in those transactions. If they're going to be that way, they're going to be that way.

It doesn't look like there's an outsized concern now for financial stability. That's important. We'll have to continue to monitor it but, like President Kocherlakota, I think it ought to be something much larger in terms of financial instability concerns that kicks in before we allow it to degrade our monetary policy tools. I would also welcome greatly any of the staff's assessments about what the relative tradeoffs are in order to reduce financial instability by a certain likelihood. How much would we have to degrade our monetary policy tools? Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Seeing no other contributions to this round, we can start the economic go-round with President Lacker.

MR. LACKER. Thank you, Mr. Chairman. The overall tenor of comments we've received from our contacts over the intermeeting period was consistent with the noticeable

improvement I reported at our July meeting. Compared with earlier in the year, the reports are uniformly more positive. At the July meeting, I noted that our business activity surveys were fairly downbeat. They've snapped back into positive territory since then and are now more consistent with other regional and national surveys. We've heard a lot about the sequestration from our District contacts in recent months. They now say that the sequestration effects they are seeing in their regions are far smaller than first feared.

The projection I submitted for the national economy is nearly identical to the one I submitted in June. To boil it down to basics, I think the expansion we've seen so far is the expansion we've got and the expansion we're going to get, and that means real GDP growth at around 2 to 2¼ percent. The Tealbook continues to forecast a significant increase in real growth over the next few quarters, but I remain skeptical.

On the fiscal front, we could see a slight boost to growth as drag diminishes in coming quarters, but I'm not that optimistic. The spending restraint due to sequestration seems to be having a much less significant effect on activity than we expected. It shows up in the data as well as in the anecdotal reports I mentioned earlier. Spending is expected to fall over the next two years. The other component of waning fiscal drag is the passage of time since the tax increases at the beginning of the year.

I would note that the Tealbook is looking for consumer spending to accelerate in advance of any acceleration in disposable income. Despite recent gains in home prices and equity values, this strikes me as unlikely without a broad-based revision in households' assessments of the downside risks to labor income. Even with growth in the low 2s, however, I believe that the unemployment rate will continue to decline by about ¾ percentage point per year, in other words, at about the same pace as in recent years. For a given GDP growth rate, productivity

growth pins down employment growth, and as I've discussed in previous meetings, I see no reason to expect productivity growth to accelerate.

The other factor affecting the rate of decline in unemployment is the labor force participation rate. This is something we've been paying more attention to in recent meetings. Some economists have argued that labor force participation is far below trend right now, and that as a result, there's an additional measure of underutilization of resources to which we ought to be paying attention. Recent research by Richmond Fed economists has made me quite skeptical of this argument, however. We know that labor force participation varies across age and gender groups. We also know that people born at different times have displayed very different participation rates. It turns out that once you control for the effects of age, gender, and year of birth in a conventional way, there's very little remaining discrepancy now between actual and predicted labor force participation. That is, any cyclical effects holding down participation have dissipated. This isn't true for every year in the sample period, but it's true right now, and that suggests to me that the recent behavior of labor force participation is no mystery at all, and it also suggests that the unemployment rate is a reasonably good measure of labor market conditions right now.

Looking forward, this framework projects that the labor force participation rate will continue to fall over the next few years, not flatten out as in the Tealbook. So I expect the unemployment rate to continue to decline by about $\frac{3}{4}$ percentage point per year for a couple of years. That means an unemployment rate of 7.0 percent in the first quarter, which is more than a year earlier than the staff or the SEP was forecasting in September 2012. To me this has obvious implications for our policy decision tomorrow.

MR. TARULLO. Mr. Chairman.

CHAIRMAN BERNANKE. Governor.

MR. TARULLO. What's your database, Jeff, on the basis of which you can make those very granular assessments of who's participating in the labor market?

MR. LACKER. It's the standard database on this, and they've done it with both flows and levels data from the CPS. You just take out these fixed effects for age, gender groups, and do the same thing for birth year, by cohort. Just take out those three fixed effects, and what you get is a predicted line and an actual line, and the predicted rate lines up with the actual right now.

MR. WASCHER. We have a similar model where we do that, and we include some other variables as well. I think our current participation rate gap is about ½ percentage point in the Tealbook. So different models can get you some different answers, depending on what you include.

MR. TARULLO. Okay. Thanks.

CHAIRMAN BERNANKE. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. There has been little change in the path of the recovery in the Third District since our July meeting. Our region's story is one of continued growth at a moderate pace. Housing activity continues to pick up, and manufacturing has rebounded over the past four months. The outlook remains quite positive among our business contacts. All of the Philadelphia Fed's leading indexes point to continued growth in our three states over the next six months.

Our Business Outlook Survey, which remains confidential until 10:00 a.m. on Thursday, has been finalized and shows broad-based strength. The general activity index, which had been 9.3 in August, jumped to 22.3 in September. And the indexes for new orders, shipments, and employment all jumped significantly in the most recent survey, suggesting both improving

economic conditions and, at some level, accelerating improvement. The general activity index has now posted four consecutive months of positive readings, after being in negative territory earlier in the year. The indexes of future activity also posted significant gains.

The housing sector continues to experience a relatively strong recovery in our region. So far, there is little evidence that higher mortgage rates have had a major impact on Third District housing activity, except on refinances. House prices are rising. There was a modest slowdown in sales and housing activity in July, but our Realtor contacts indicate that that has bounced back in August, suggesting that it was a lull and perhaps the effect was not entirely driven by the rise in mortgage rates. Building permit data, based on discussions with industry contacts, suggest that construction activity is accelerating, and single-family permits are now outpacing multifamily permits.

Labor markets in our three-state region continue to slowly strengthen. Payroll employment has expanded over the past three months. Jobs are growing more slowly in our region than in the nation, but that has been typical for many, many years now, and not just cyclical. My staff is forecasting continued modest improvement in regional labor markets over the next year.

The Committee's economic projections for the national economy take on more significance at this meeting because we have communicated forward guidance on our asset purchases in terms of our June economic projections. The fundamental question is whether we have revised our forecast enough to warrant deviating from the policy course we laid out to the public in June. In my view, the answer to that is no. My assessment of the incoming data since our July meeting has led me to make a minor adjustment in my near-term forecast for 2013 but no change in my outlook over the medium term. I adjusted my 2013 forecast down two-tenths of

a percentage point, down to 2.4 percent, but the size and revision is certainly well within normal error bands. Two-tenths in our point forecast for growth is in no sense significant. In fact, the average historical root mean squared error for forecasts made in September for the current year is more than 80 basis points. For a year ahead, it's 150 basis points. The basic forecast we laid out in June led us to conclude that it would be appropriate to begin reducing the pace of purchases this fall. I believe that forecast is still intact. I anticipate growth will pick up to about 3 percent next year before returning to a steady-state growth rate of about 2½ percent in 2015 and '16.

I project the unemployment rate will continue to decline, much as President Lacker did, reaching 7 percent by the end of this year or early in the first quarter of next year, 6.2 percent by the end of 2014, and 6 percent in 2015 and '16, which I assume is roughly the natural rate. Although inflation remains low, I project it to gradually increase back toward 2 percent through the rest of our forecast horizon.

I have generally taken on board the Committee's forward guidance. I expect us to end purchases early next year, at which point the unemployment rate will be at or below 7 percent, and we'd begin to raise the federal funds rate when the unemployment rate reaches 6½ percent. According to my forecast, that will be in the second half of 2014. Although I see the economy returning to its steady state late in 2015, my policy path calls for a gradual increase over the next three years, less steep than implied by a traditional policy rule, but steeper than what is in the Tealbook. And I have the funds rate returning to its neutral rate, which I see as about 4 percent, by the end of 2016.

The Tealbook forecast has also changed only a little since June. The staff has reduced their growth forecast for 2013 through 2015 about ¼ percentage point per year. The unemployment rate forecast is slightly lower than it was in June, as we heard. PCE inflation is

projected two-tenths of a percentage point higher in 2013 but lower by a similar amount in 2014 and 2015. None of these changes is significant in any meaningful sense. The Tealbook forecast incorporates both our tapering plans laid out in June and the subsequent run-up in interest rates.

Indeed, most private-sector forecasters, as well as the dealers, are anticipating that we will begin to reduce the pace of purchases at this meeting. Thus, they see incoming data as consistent with the forward guidance we gave in June. We cannot turn back the clock and proceed as if we did not convey any forward guidance in June, and now decide that it isn't appropriate to taper with the June outlook. We have already made that decision. To maintain our credibility, a deviation from the policy path we laid out in June has to be argued on the basis of a significant change in the forecast. In my view, based on the incoming data, it would be very hard to deploy a substantially different outlook from what we have projected in June. Thus, I don't see how we cannot follow through with the plan we laid out without losing credibility.

One might think of two reasons for delay, and neither is compelling in my view. First, you may argue that interest rates have risen more than you would have liked. And when we started to discuss the possibility of tapering, indeed, we did see a market reaction in June after the meeting. Rates have been rising since the employment report of May 3. You might argue that we could surprise the markets by not doing anything and attempt to ease financial conditions and bring short-term rates back down. I think this is a very risky game to be playing. We don't have tight control over market expectations. We need to be quite humble about our ability to anticipate, let alone control, market expectations. The little effect we do have on expectations derives directly from our credibility and our willingness to follow through on our promises. Unless we can make a compelling argument that the forecast for the economy has changed significantly from June, not following through on our forward guidance risks creating further

uncertainty about our policy reaction function. Such uncertainty can be a drag on the recovery. It risks undermining the efficacy of one of the few policy tools we seem to have left in the current environment, and that is forward guidance. In other words, moving the goalpost or creating confusion about our reaction function undermines the efficacy of our forward guidance.

Second, one might argue it is better to wait and gather some more data, as suggested in alternative B. After all, we still have the opportunity to do a reduction in the pace of purchases later in the fall, which would be consistent with our forward guidance. And I think we have a problem here, because on what basis would we act in the coming months? Markets will surely want to know pretty precisely, if you're not acting now, what will cause you to react in coming months? To my mind, the most probable outcome for the coming months, and perhaps for several years, is that the data will continue to come in consistent with moderate growth, with monthly variations up and down, similar to what we have seen over the past year or so. I don't think it is likely we will see a much stronger case for following through with our forward guidance in December than we have right now.

So on what grounds would we choose to act in coming months? It just seems unlikely to me that we will see the kind of breakout set of numbers that make the decision obvious. We will keep waiting and hoping that another \$500 billion or another \$2 trillion in purchases will launch the boom we have been hoping for, even though the first \$3 trillion did not produce such a result. We may end up being in this, then, for a very long time, seeing our balance sheet expand substantially from its current enormous size. Are we truly prepared for such an eventuality? When and how will we decide to stop?

Today, markets, seeing the same economic and financial data that we do, largely anticipate we will announce a reduced pace of purchases at this meeting. They are reading, as

we are, that they are ready as they are going to be. You have already borne some of the cost of making that announcement. Rates have risen. If we don't act today, it is unlikely the decision will become any easier in the fall. Thus, we will be contributing to policy uncertainty and market volatility as market participants wrestle with how we will choose to make that decision. The public will be increasingly confused about our plans for asset purchases and our reaction function. The credibility and, thus, the effectiveness of our forward guidance could be undermined, and our balance sheet will grow larger and larger. At some point, we will need to taper and eventually end purchases. And when we do, you will have to bear all of those costs again. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. In the July meeting's policy round, I said I feared an incoming stream of data through this meeting and possibly beyond that could be characterized as producing persistent ambiguity. We have seen two more labor reports and lots of other data since our previous meeting, and I would say that the economic signals do not yield a clear picture. A number of incoming prints have been disappointing relative to expectations, and the data taken on their own, without reference to expectations, strike me as quite mixed, with some points of strength balancing some signs of weakness around what have mostly been middling indicators.

My team engaged our directors and contacts in the Sixth District this cycle with questions designed to get at their sense of the outlook on which they are making their own business decisions. Specifically, we asked if they buy the widespread assumption of forecasters, and that includes ourselves, that the second half will see a pickup in activity versus the first half. We asked if our assumptions of higher consumer and business spending, somewhat greater export

activity, and a diminishing drag from the government sector, felt right to them. To summarize quickly what we heard, our contacts can be described as apprehensively optimistic. This represents a slight pullback from sentiment before the July meeting. They are seeing business trajectories that are in essence very similar to the first half.

As I said as I began, my reading of the key data leaves me ambivalent. I can make the case for believing in a pickup in growth. Growth seems to have strengthened in Europe and stabilized in China, adding to an encouraging context for export growth. Business demand for fixed capital appears to be improving. The drag on GDP growth from combined federal, state, and local government spending has shrunk measurably. Industrial activity is improving along several dimensions. At the same time, our current tracking estimates, and those of others, for GDP growth in the third quarter suggest a slowing from the revised second-quarter estimate and cast significant doubt on the assumption of a pickup in the second half. Also, the recent employment report may signal a slowing of hiring. The glass can be seen as half empty or half full, and I think that is an agonizing circumstance in which to make the policy decision we face at this meeting.

In my SEP submission, I modestly downgraded my 2013 growth forecast but held to a basic outlook of a pickup in the pace of growth over the forecast horizon. My projection of accelerating growth, however, is not as early or as strong as the Tealbook. My forecast for the unemployment rate is similar to the Tealbook in the near term, crossing 7 percent in the middle of next year. So in my overall growth and employment outlook, I am sticking to an optimistic narrative but, like many of my District contacts, with some apprehension.

For the SEP submission, my inflation forecast has price trends heading back toward target, like the Tealbook, but at a much less attenuated pace. I have underlying inflation

returning to target by 2015 rather than remaining below 2 percent for longer as in the Tealbook. I will point out that if the Tealbook forecast proves correct, core PCE inflation will have been below 2 percent for nine consecutive years. On a headline basis, the Tealbook projection through 2016 implies missing the year-over-year headline objective in eight of the previous nine years. I find this troubling, and I find it as fodder for the half-empty interpretation.

To repeat, my outlook shows modest growth relative to the Tealbook, and it is also at the low end of the central tendency of the most recent SEP. My sense of risk at this juncture is that I see more downside risks than upside. Given our record of overoptimistic forecasts, I am giving some probability points to the risk that accelerating growth may not just be around the corner. As to cause, I will point to possible intensification of drags stemming from the sequestration, a more general drawdown of defense spending, and I also see uncertainty around the fiscal situation possibly affecting consumer and business confidence.

Our soundings in my District on business input cost and wage pressures suggest that the recent subdued inflation trend may persist for a few more quarters, but do not suggest further disinflation. That said, I submitted a risk assessment regarding my baseline inflation outlook, which I mentioned a second ago, to the downside. The Tealbook may be right, and my assumption of earlier convergence to the objective of 2 percent may be optimistic.

To summarize, if I could be assured that the growth that I have in my forecast is reasonably on track, and the price trend is stable and not softening, that would make me less apprehensive. But in my judgment, there are simply a lot of question marks—too many—in the mix of data at this juncture. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Rosengren.

MR. ROSENGREN. Thank you, Mr. Chairman. As some of you may have noticed, I am carrying a cane. This is not because I felt I needed to be armed at this meeting. It may yet prove to be the case, we'll see. [Laughter] But, rather, I had a hip replacement three weeks ago. Unfortunately, that means every hour I need to stretch, or at least that's what my doctor told me, though I violated it in the first two hours of this meeting. However, if I get up during your comments, please take no offense. I would also like to thank Charlie Plosser and Jeff Lacker, my first and second alternates on the voting rotation, for motivating me to take my physical therapy seriously so I could be sure to vote at this meeting. [Laughter]

I felt it was important to be at this meeting because the economic outlook has changed significantly since June. While I had expected the first half of this year to exhibit growth at 2 percent, I had anticipated that the second half of this year would be much stronger. Moreover, I had hoped that the pickup in growth would already be apparent in the data by now. Unfortunately, that has not been the case. I now expect third-quarter GDP to expand at 2 percent, a little below that anticipated in the Tealbook and a little above that expected by Goldman Sachs and Macroeconomic Advisers. But none of these estimates are significantly different than what we have averaged over the first half of this year. While I still expect that waning fiscal austerity, both here and abroad, and rising consumption will eventually result in GDP growth above the 2 percent rate that we have been experiencing for most of this recovery, I want to see it in the data as well as in the forecast. We have had plenty of quarters in which we saw it in the forecast, but to date we have not yet seen it in the data.

Since the spring, a major impediment to faster growth has been the significant tightening in financial conditions. From the beginning of May, as many people have noted, the 10-year rate has risen more than 100 basis points, as has the rate on the 30-year fixed-rate mortgage. The

magnitude of this tightening in long rates was neither expected nor welcomed by me. In the absence of such a significant increase in long rates, I would have expected stronger growth to already be occurring. Since to date we have only talked about slowing our purchase program, such a dramatic tightening in response to hints about actual policy highlights that we should be particularly humble about our ability to forecast interest-rate reactions to both our actions and language, and that actions only be taken when they are strongly supported by the data.

Unfortunately, this inadvertent and outsized reaction to our announcements highlights that we have yet to master the communication challenges inherent in our current policy tools. Although we have learned that language can be an extremely powerful tool, we have also learned that our control over this instrument is highly uncertain. Assertions that our tools have limited impact are hard to square with the dramatic rise in long-term rates during a time when the Tealbook and many private forecasters have been lowering their growth forecasts.

The significant tightening of long rates has had a particularly large impact on how much support I expect residential investment and other interest-sensitive sectors to provide going forward. While increases in wealth, employment, and household formation are still supportive of the housing sector, the higher mortgage rates have altered affordability for many new home buyers. Consequently, I have substantially pared my forecast of the strength of residential investment based on the tighter financial conditions.

In contrast, auto sales, another interest-sensitive sector, have shown significant improvement. However, because auto loans are priced at the shorter end of the yield curve and competitive dynamics are quite different, auto loan rates have not seen the outsized reaction experienced in home mortgage rates. While the G.19 series for auto loan rates unfortunately comes out with a substantial lag, fortunately, Bankrate.com data provide daily auto loan rates

based on quotes to customers on their website. The rates are for borrowers with a 700 FICO score, 10 percent down, and a new car loan with four years to maturity. The average of the daily rates for August was 2½ percent. These rates remain quite low relative to earlier this year and do not reflect the substantial tightening seen for mortgage loans. These quotes are consistent with the complaints I hear from community bankers that indirect auto loans are fiercely competitive. Thus, auto sales have been much less affected by the tightening in interest rates because the pass-through of higher rates has not yet occurred.

The recent labor report was also disappointing. The unemployment rate declined for the wrong reason again, and the three-month average of payroll employment growth is only 148,000 jobs, much less than the 184,000 jobs we have averaged over the past year, and well below the 200,000-plus jobs that I think are needed at this stage of the recovery. Payroll growth, like the GDP numbers, does not yet reflect the robust, self-sustaining recovery that I had hoped to be apparent at this time.

The economy remains fragile. There are significant downside risks from fiscal political uncertainties, and incoming data have been weaker than expected. We need to be data-driven. And as I will discuss tomorrow, we have not yet seen the data that warrant taking the risk associated with interest rates rising even higher and further slowing the economy. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. The Eighth District economy continues to grow at a moderate pace. Over the past year, Eighth District nonfarm payroll employment has increased by about 1½ percent, the largest year-to-year increase since June of 2006. Consistent with this, surveys indicate that employment levels have stayed the same or increased for a

majority of contacts across the District. Unemployment across District MSAs continues to track the national rate closely, after having run below the national rate for much of 2011 and 2012.

There is considerable variation in unemployment rates across MSAs, ranging, for example, from 4.9 percent in Columbia, Missouri, to 9.7 percent in Pine Bluff, Arkansas.

Large District retailing firms report that consumer spending has been slower since January of this year. They attribute the slower pace of spending to the end of the payroll tax holiday. However, recent readings on customer attitudes suggest that concerns about the payroll tax hike are fading, and so this factor may be less important going forward. Instead, consumers seem to be more worried about job availability.

District contacts associated with global businesses suggested that, on balance, international conditions have stabilized in recent weeks. European sales, in particular, were encouraging. I saw these anecdotes as consistent with the St. Louis view and the Tealbook view that the global macroeconomy may be poised to improve in coming quarters.

Turning to the outlook for the U.S. economy, events have once again forced us to ratchet down our expectations for real GDP growth in 2013 and 2014. We now expect only 2.2 percent growth for all of 2013 and 3.0 percent growth in 2014. While this still suggests an accelerating economy next year, our expectations are considerably more subdued than in previous forecasts.

On unemployment, we continue to forecast steady improvement to 7.1 percent by the end of 2013 and 6.3 percent by the end of 2014. We think that the steady-state value of unemployment is about 6 percent. The median value of U.S. unemployment over the post-war era is 5.8 percent, and the steady-state value is probably somewhat higher than that due to labor market damage associated with the financial crisis and its aftermath.

Inflation has been running well below the Committee's 2 percent target. In addition, the two-year breakeven inflation rate calculated from the TIPS market has been as low as 1.35 percent in recent weeks, seemingly suggesting that markets see little prospect of higher inflation before the second half of 2015. They nevertheless project that inflation will move back toward target as the economy continues to improve. Importantly, I think improvements in the global macroeconomic outlook, combined with a continuation of our aggressively easing monetary policy, will drive inflation expectations and actual inflation higher in the quarters ahead. However, I prefer to see more tangible evidence that this is happening before committing to policy action based on this scenario. For this reason, I will be counseling patience during the policy round at this meeting. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Pianalto.

MS. PIANALTO. Thank you, Mr. Chairman. In keeping with the patterns of this recovery, much of the recent news on the economy has been mixed. As a result, the broad contours of my forecast are little changed since our July meeting, and little changed since the previous SEP submission. I continue to expect GDP growth to pick up over time, which will bring the unemployment rate down toward its natural rate and pull inflation up toward our 2 percent objective, broadly similar to the Tealbook outlook.

Recent inflation data appear to be firming. Today's CPI release was about as I had expected, and it increasingly looks like third-quarter inflation measures will rebound, whether we look at CPI, PCE, headline, or core inflation. Notably, my Bank's median CPI inflation measure came in at 2 percent, where it has been for the past two years. The recent declines in the unemployment rate have been slightly faster than I had anticipated, causing me to edge down my unemployment forecast once again.

As to the balance of risks, I believe the risks to the outlook for growth, unemployment, and inflation remain broadly balanced. I have often found myself saying that changes I've made to my outlook have been small relative to my previous forecast. But since we launched the current asset purchase program in September of 2012, these small adjustments have accumulated. Compared with the situation a year ago, both labor market conditions and the outlook for the labor market have improved considerably, as David pointed out in his presentation.

Over the past 12 months, the economy has added more than 2 million jobs, as the pace of payroll gains has risen from a six-month average of 97,000 at the time of our September 2012 meeting to about 160,000 today. Unemployment has declined by more than 1 million people or 0.8 percentage point, as measured by the unemployment rate. And while we remain concerned about the labor force participation rate, the labor force has grown by more than 800,000 people since last fall. In response to these improvements, I have lowered my forecast for the unemployment rate for the fourth quarter of this year from 7.9 percent in my September 2012 projection to 7.2 percent as of this meeting. The Tealbook's forecast of unemployment has shifted by a similar amount since September of last year, and its forecast of payroll employment at the end of this year has risen by more than 1 million jobs. Now, it is true that recent payroll gains have slowed, but I am expecting this slowing to be temporary.

My District contacts generally report a sense of cautious optimism, and a variety of indicators about both the outlook in general, and labor markets in particular, support this view. The auto recovery is continuing at a strong pace and, even with the recent increase in mortgage rates, housing affordability does remain high. Both the manufacturing and nonmanufacturing ISM surveys have been encouraging the past two months, with the nonmanufacturing survey

clocking in at a post-recession high. Focusing on the labor market, the nonmanufacturing ISM survey's employment index is near post-recession highs. Small businesses in the August NFIB survey reported the strongest percentage of hiring plans since 2007. And initial claims for unemployment insurance hit a post-recession low even before the recent computer glitch that lowered them even more.

I also believe that there is reason to be cautious about allowing the decline in labor force participation to somehow diminish the improvements in employment and unemployment that have occurred. Eventually, we will see a rise in labor force participation, but such a rise in labor force participation doesn't imply that the unemployment rate won't continue to decline. In fact, a cyclical rise in the labor force participation rate is likely to be associated with a cyclical reduction in the unemployment rate. My staff have noted that this historical pattern is captured clearly in the FRB/US model. According to that model, the business cycle components of labor force participation and the unemployment rate have a correlation of about a negative 0.9. If this pattern holds, the continued economic recovery will consist of both a further reduction in the unemployment rate and a small cyclical rise in the participation rate. While my view of the outlook for the labor market clearly has implications for our monetary policy, I will wait until tomorrow's go-round to share my views on policy. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. In that respect you're quite the exception, I would say.
[Laughter] Thank you. President Evans.

MR. EVANS. Thank you, Mr. Chairman, for that encouragement. The outlook hasn't changed a great deal since our July meeting. The economy is growing, but its forward momentum is not very robust, and we're still waiting to see what effects the recent financial tightening will have on activity. The tone of conversations with my directors and business

contacts was somewhat better than the previous round, though only a little bit. Incoming reports continue to be mixed.

The auto sector is doing well. Sales have continued to grow and are now close to pre-recession levels. The industry is optimistic about prospects for the rest of this year and for 2014. Of course, they have their concerns. One is the fall in the yen and stronger price competition from abroad. The other concern is rising interest rates. Low rates have provided strong support to sales, and they are nervous about the effect that tightening financial conditions will have on demand going forward. Outside of autos, manufacturing is mixed. In general, activity has been heading sideways, and businesses expect this to continue. No one is talking about either a strong upside or a substantial downside over the rest of the year. The major temporary employment firms see demand as being flat to up marginally. I also heard some less-than-upbeat news concerning consumer spending, as Discover Financial mentioned that their retail data had softened over the past six weeks.

In terms of the national economy, the recent data have also been mixed but on balance somewhat disappointing. On the upside, the second quarter turned out better than we were expecting, although 2½ percent growth or even an upward revision to near 3 percent, as the Tealbook seems to be expecting, probably overstates the forward momentum. A softening tone of much of the more recent data is worrisome. We still appear to be muddling along without signs that a more vigorous recovery is building. That was the objective, after all. July and August payroll employment gains were disappointing. Taken as a whole, these reports are not indicative of a vibrant, sustainable labor market. Businesses have adequate capacity and staffing to meet current levels of demand, so they see no pressure to hire workers or invest in new capital until more customers actually walk through the door, and that's not the case at the moment.

Consumer expenditures have decelerated noticeably. I think the past few months of spending data are pretty worrisome. That's also the situation with the latest consumer confidence data. And while autos and housing have been sources of strength for growth, we shouldn't assume auto sales, home construction, and housing prices will continue to climb at their recent pace given the tightening in financial conditions. The increased restrictiveness of financial conditions is a significant downside risk.

Regarding our SEP submission, you will again note that I view this exercise as flawed. I couldn't bring myself to write down a forecast with what I would truly consider appropriate monetary policy. For me, that would exhibit some overshooting, with inflation going at least a little above 2 percent and unemployment falling below the natural rate. I certainly cheer those participants who did submit something like that.

MR. KOCHERLAKOTA. Thank you. We accept your applause. [Laughter]

MR. EVANS. However, given the Committee's recent direction on trimming LSAP purchases, the sort of aggressive policy that I would prefer is simply too far outside the consensus, and accurately communicating my policy assumptions within these public projections is beyond what we have figured out how to do effectively. I did, however, assume that we would hold the funds rate near zero even after we crossed the 6½ percent threshold. Given the softness in inflation and the headwinds weighing on growth, I think a more appropriate policy dictates zero rates until nearly the end of 2015 and only a gradual tightening in 2016, as mentioned in paragraph 5 of alternative B. With these policy assumptions, I had just over 2 percent GDP growth this year. And I will ignore Albert Einstein's definition of insanity—I persist in writing down growth figures of 3 percent and higher in the out years. With this growth trajectory,

unemployment should fall below 6½ percent in mid-2015, but as I said, I think appropriate policy implies waiting longer to start raising rates.

On inflation, I think we will be too low over the entire forecast horizon. Even in 2016, in my opinion we will be lucky to be near 2 percent. I have displayed charts on the history of inflation in a lot of different presentations, but the way that I do it sort of ignores the observation from President Lockhart. It is quite remarkable that we've had so many years out of nine with inflation below our 2 percent objective. That's quite a record, not something we should try to repeat.

The risks to our growth and inflation forecasts are decidedly to the downside. I'd feel a lot better if we found a way to minimize the increased restrictiveness of financial conditions. I'm hoping that the movements in long rates we have seen so far are a one-off adjustment as financial markets finally come to grips with the fact that policy will not remain on hold forever. My forecast assumes this realization of our policy intentions. I think this is plausible especially if recent asset reallocations have primarily been due to a change in heart by the most optimistic investors, the ones who had previously thought our open-ended asset purchases were more like a Draghi–Woodford “whatever it takes” policy. That's not what we could bring ourselves to do apparently. But I see the risk of further unintended financial restrictiveness if we do not reemphasize our continuing commitment to providing the economy the monetary accommodation that it needs to achieve escape velocity. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Williams.

MR. WILLIAMS. Thank you. Could I clarify the comment by President Lockhart? It wasn't that we've had nine years of core inflation below 2 percent. This includes the forecast, right?

MR. LOCKHART. What I cited is through 2016 from the Tealbook.

MR. WILLIAMS. Yes, through 2016. I just wanted to clarify.

MR. LOCKHART. I said it was nine years retrospective. Of course, we didn't have the objective that whole period.

MR. BULLARD. President Lockhart, I'm looking at the data here, and it looks like it is above 2 percent for some of these years. So I don't see eight or nine years. It's total inflation, yes.

MR. EVANS. Oh, it's the outlook for it. Oh, I see. Okay.

MR. LACKER. It's including the outlook. It will have been nine years.

MR. BULLARD. Nine years if you include five past years and four forward years. Got it. Thank you.

CHAIRMAN BERNANKE. President Williams.

MR. WILLIAMS. I should do a two-hander *not* before my comments. [Laughter].
Lessons learned. Like President Pinalto, I will refrain from giving my policy views during this go-round.

Recent economic data have been somewhat disappointing on net. GDP growth in the first half of the year was revised up, but indicators of growth in the second half have come in below what I expected. Reflecting the higher path of interest and mortgage rates and signs of a touch less underlying momentum in the economy, I've revised down my forecast for 2014 by a few tenths. Nevertheless, the overall contour of my projection remains the same as in July and is essentially the same as in the Tealbook, and calls for continued gradual improvement in the economy and in labor market conditions.

My business contacts echoed the mixed tone of the data. They emphasized that demand remains spotty. Several of them mentioned the lingering effects of payroll tax increases, and one noted that consumers still aren't making impulse buys the way they normally would. They tell me they remain very hesitant to expand employment given the still uncertain economic outlook. The one clear exception to this timidity is seen in sectors related to housing, where the strength of demand is overwhelming caution, and employers are hiring in large numbers. In contrast, confidence in the commercial real estate market appears to have been shaken by the recent spike in interest rates. A major developer in my District talks of confusion and fear in the CRE market.

In this regard, it's reassuring that the rise in bond yields has not left more of an imprint on other asset prices. Consider the comparison with the alternative scenario "Higher Interest Rates with Housing Spillovers" in the Tealbook. According to the FRB/US model, a large increase in long-term interest rates should cause stock prices to plummet, house prices to decline modestly, and the dollar to appreciate. Indeed, these asset price responses account for the lion's share of the transmission mechanism from tighter financial conditions to the economy resulting from higher rates in the FRB/US model. But in the current episode of rising longer-term rates, equity prices have not declined, house prices have continued to rise, and the dollar has appreciated only very modestly. Because these predicted asset price effects are not materializing, the effects of the increase in longer-term interest rates on the economy are likely to be far more muted than the FRB/US simulation suggests. This cautions against overreacting to the effects of the recent increase in longer-term rates on the outlook for the economy.

Regarding labor markets, it has now been one year since we began our open-ended asset purchase program, and over the past year the unemployment rate has fallen eight-tenths of a

percentage point. Non-farm payrolls have risen by 2.2 million workers, an average of—and I will say we used a calculator for this one—184,000 workers per month. Initial claims for unemployment insurance have fallen substantially. I’m echoing the remarks of President Pinalto here. And beyond these indicators, my staff has identified 27 other predictors of future labor market conditions, which I will not go through. [Laughter] All but 2 of the 30 indicators in total imply that the outlook for the labor market has improved considerably since last September. In this regard, two of the indicators I do find very useful are shown in David Wilcox’s “Forecast Summary,” and that’s “job availability” from the Conference Board and “jobs hard-to-fill” from the NFIB. These are literally questions to households and businesses about the slack in labor markets. And as David’s chart showed, both of these indicators have come down sharply over the past year and, in fact, indicate less slack in the labor market than the Board’s unemployment gap. So, overall, the labor market outlook has shown significant progress over the past year.

One puzzling aspect of this improvement in the labor market has been the relatively slow growth in real GDP, which many people have mentioned already. Jeremy Nalewaik provided a very good answer to that puzzle in Monday’s nonfinancial briefing to the Board of Governors. Real gross domestic income has grown nearly 2.7 percent over the past four quarters, about 1 percentage point above that of real GDP. Jeremy’s research with his coauthors finds that GDI is in many respects a better indicator of the overall output of the economy than is GDP. In fact, in a recent paper with coauthors, he finds that a good rule of thumb is that an approximately 70 percent weight on GDI and 30 percent weight on GDP is the best measure of underlying output in the economy—it’s a very sophisticated analysis. My own preliminary research using the Laubach–Williams model with a different methodology, finds a similar result. So Jeremy’s

work, which combines GDI and GDP, would suggest that output has grown by close to 2.4 percent over the past year, and I think that's roughly consistent with the improvement in labor markets and other indicators of economic activity.

As I mentioned at our previous meeting, the unemployment rate remains a very good summary statistic for labor market conditions, highly correlated with other labor market indicators, as David Wilcox's picture shows. The natural rate of unemployment appears to be reasonably stable and predictable over time compared with, say, labor force participation and the employment-to-population ratio. The unemployment rate is by no means a perfect measure, and I talked about that a bit at the July meeting, and its decline over the past year likely overstates somewhat the improvement in the labor market. Nonetheless, it has fewer problems than the employment-to-population ratio, which conflates structural and cyclical factors to a much greater degree. Estimates of trend labor force participation have often been substantially revised ex post, and recent estimates by the BLS and my own staff suggest that structural factors are the main reason the employment-to-population ratio has stayed so low since 2008, while the unemployment rate and most other labor market indicators have improved. I think my staff's view is very similar to the Board staff's view about what the labor force participation gap is.

Regarding inflation, while we remain below our 2 percent longer-run goal, I am encouraged by the recent data that suggest that the decline in inflation earlier this year was, indeed, temporary. My business contacts continue to report very little wage or price pressures. In my forecast, I expect it will be a number of years before we fully get back to our 2 percent longer-run inflation goal.

Finally, in response to Governor Yellen's comment about why the interest rate in my forecast is still well below the 4 percent level, which I think of as the long run, it's exactly for the

second set of reasons you said. There are significant headwinds. I would list exactly the ones you did in terms of holding back economic growth even in 2015 and 2016. In fact, going back to the workhorse Laubach–Williams model, the equilibrium real interest rate in that model is below minus ½ percentage point, and that would be, again, reflecting the significant persistent headwinds. Thank you.

CHAIRMAN BERNANKE. Thank you. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. In a very important sense, the health of the Ninth District economy is good. There are four whole states in the District: North Dakota, South Dakota, Minnesota, and Montana. There are also two partial states, Wisconsin and Michigan. In Montana and Minnesota, the unemployment rate has fallen to just above 5 percent. In South Dakota, the unemployment rate is below 4 percent. These numbers are still elevated relative to 2007 levels but by less than 1 full percentage point each. Now, I'm not mentioning North Dakota, because special circumstances there would undoubtedly lead many in this room to head out West and become a roughneck, but I'm going to focus on these other three states. I think when we look at the other markers of economic health in these three states, they're less comforting. The employment-to-population ratio remains well below 2007 levels in all three. Similarly, in all three, the growth rate of real personal per capita income, while positive, has been well below historical norms over the past five years.

Finally, one of the things we're looking at in Minneapolis to try to get a handle on what is going on in the labor markets is the transition rate from short-term unemployment to employment. By short-term unemployment, I mean being unemployed for less than or equal to 27 weeks. People worry about there being structural factors for the long-term unemployed—because they're not able to get jobs—but generally we think that monetary policy should have

some effective role to play in increasing the job-finding rate for the short-term unemployed.

What we find in Minnesota is that the transition rate for short-term unemployed to employed has improved more than nationally but remains well below 2007 levels. We haven't looked at the transition rate in the other two states I mentioned, Montana and South Dakota, yet.

My sense, based on the information from our contacts, is that these latter, less comforting metrics are actually more reflective of the overall economic health of these three states than their unemployment rates. We hear continued caution from local business contacts regarding possible expansions in growth and hiring largely grounded in concerns about revenue. Several business owners, both large and small, emphasized that low medium-term interest rates were valuable support for their current levels of activity in any expansion plans they might undertake.

At the same time, wage and price pressures remain subdued in the District outside of the oil counties of North Dakota. None of this is definitive. It's at best suggestive, but I think these local data do provide some corroboration for the perspective that the employment-to-population ratio might contain some valuable information over and above the unemployment rate about the level of labor market slack. At the national level, I see further corroboration for this perspective in the significant gross flows from nonparticipation directly back into employment. So there's some downward pressure being put on wages from the fact that people are flowing back from nonparticipation directly into employment.

Governor Yellen's comment about headwinds is well illustrated by the Ninth District, where we're much closer to full employment and I think we're closer as well in terms of inflation, although I don't have direct data on this. This is all consistent with interest rates that are very low, right? Interest rates are being maintained by this Committee at near zero. Why is that? Well, in the Ninth District, our accommodative policy is much closer to being exactly right

to offset the headwinds that are more muted there in order to achieve our goals. We should want to achieve our goals. We shouldn't be worrying about what the level of policy associated with that is. The goal is to get to full employment and get to 2 percent inflation. And that might mean keeping interest rates low for many years to come, even beyond 2016.

Let me turn next to my outlook for the national economy. Mr. Chairman, I am number 16 in the Summary of Economic Projections, and if you look at my projections, you would see that I expect inflation to rise back to 2 percent by 2015 and be over 2 percent in 2016. But I agree with what President Evans was suggesting. It would be highly misleading to refer to these projections as in any way reflecting my outlook for the economy. These projections are based on what I perceive to be an appropriate path of monetary accommodation. As I've joked before about it, the question being asked here is a totally unrealistic one. It asks, if you were in charge of monetary policy, what would happen? And as President Williams has reminded me several times, that's extremely unlikely to happen. But when I've explained this to people in my District, they immediately get it. Yes, this isn't going to happen. [Laughter] But my path is considerably more accommodative than the one assumed in Tealbook, Book A. If I instead use the path for monetary policy in Tealbook, Book A, I see the inflation rate rising back to 2 percent only after four years, just a bit faster than the Tealbook, and this subdued inflation outlook emerges from the various DSGE models used around the System. I continue to get a lot out of the briefings we get on a quarterly basis from the dynamic stochastic general equilibrium models, but one of the things I think that's very interesting is how the perspectives of those models really line up with what we get from FRB/US and from the staff's outlook in the Tealbook. Based just on this outlook for inflation, it would seem appropriate to add more monetary accommodation than is assumed in Tealbook, Book A, so as to return inflation to our

target in less than four or five years. But I'm not talking about policy. I'll talk about that in the next go-round.

I've been focusing on the need to talk about prices, but the behavior of employment continues to be a grave concern as well. I think one skepticism that you hear—maybe less in this room, but outside this room you'll hear it—is that adding monetary accommodation may not really boost employment at all, and there are reasons for concern in this dimension when one looks at the data from the CPS. There has been basically no change in the employment-to-population ratio since the unemployment rate peaked in October of 2009, and we have seen job growth since October of 2009, but basically it's the same as population growth, and that's what it means that the employment-to-population ratio has remained basically the same. What I'm looking for is an improvement in that ratio so that we're actually creating jobs at a faster rate than the population growth rate. There's been essentially no change in the employment-to-population ratio over the past year either. What we're calling a recovery in the labor market has almost entirely taken the form of reclassification of nonemployed people from the state of having looked for a job in the past four weeks to the state of not having looked for a job in the past four weeks. This is not what many or even most would call a recovery, this reclassification of those who are not employed.

As I said, these data have led some observers to the pessimistic conclusion that policy stimulus cannot improve labor market outcomes. I think the good news is that this flatness of the employment-to-population ratio understates the degree of improvement in the labor market over the past few years. The unemployment rate overstates it. If you look at the people who are between the ages of 25 and 54, you get a brighter picture. The employment-to-population ratio in this group is about 20 percent back to its 2007 level from its 2009 nadir. We have made some

progress there. If you look at the flow between short-term unemployment and employment at the national level that I mentioned earlier, that transition rate has also risen slightly since its low point. When I look at the data on the labor market from the CPS, I do see some modest improvement relative to the lows in 2009. It suggests that we can foster even more improvement with additional monetary stimulus. So that's good news, and I'll say more about that in the next go-round.

I do want to add one comment to the discussion about whether we've seen enough improvement since June or enough improvement since last September to begin reducing the flow of purchases. We want to be thinking that the action to reduce purchases is going to send a message. It's going to be an act of communication, and unless we do something else to offset the reduction in accommodation associated with the reduction in purchases—if we just do that alone—that will send the message that we are feeling that the economy is overheated if we continue this flow of purchases. That's the message we're sending. We're sending the signal either that we think inflation is too high or that we're comfortable with the inflation outlook and the employment outlook that's going to be induced by the reduced flow of purchases. That is the message we send. That's the message I think markets have been taking onboard, that, okay, they seem to be happy with an outlook for unemployment that's going to be gradually declining and an outlook for inflation that's going to be only gradually rising back to 2 percent. We can say all the words we want to try to address that, but actions speak louder than words. And so we take that step, then that's the message we're going to be sending, and that's the message that markets and others will hear. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President George.

MS. GEORGE. Thank you, Mr. Chairman. The Tenth District economy continues to expand at a moderate pace. Consumer spending rose moderately, supported by retail and auto sales, and residential and commercial real estate markets have strengthened further. District employment rose modestly in July, and a growing percentage of our contacts reported a rise in wage pressures and labor shortages. District manufacturing activity expanded, with manufacturers reporting a modest rise in employment and the first increase in the average employee work week since 2011. District energy activity remains relatively steady, as a slight decline in oil rig counts has been offset by an increase in natural gas rig counts. Finally, U.S. farm income for 2013 was revised down by 6 percent and is expected to decline an additional 20 percent in 2014. District farm income was also expected to be lower in the months ahead, but farmland values continue to rise. Irrigated cropland values were 25 percent higher than year-ago levels and non-irrigated cropland was 18 percent higher.

My overall assessment of the national economy is largely unchanged from July. Second-quarter growth came in stronger than I expected because of some transitory factors that are likely to reverse in the current quarter. I continue to expect moderate GDP growth in the second half of this year of about 2 percent and a gradual pick up to 3 percent by 2015, supported by growth in private demand and waning fiscal drag.

Looking at key sectors of the economy: housing activity has moderated, but the recovery in this sector seems on track. Auto sales are close to pre-recession levels, and the ISM indicators point to solid gains in manufacturing and nonmanufacturing activity in August. Importantly, the labor market and the broader economy have continued to improve in the face of fiscal tightening. I interpret this resilience as a signal that the economy's underlying fundamentals have improved substantially. Stock markets have remained up in the face of higher interest rates since May.

Household balance sheets have been repaired over the past few years as mortgage debt outstanding has steadily declined and home prices have risen.

In assessing labor market conditions, I have been tracking a labor market conditions index prepared by my staff. It consolidates a broad set of data, including the labor force participation rate, and over the past year that index has shown a notable improvement to historically high levels with sustained momentum through August.

Finally, I expect inflation will pick up in the second half of this year and next year as labor market conditions continue to improve, private demand strengthens, and inflation expectations remain stable. Thank you.

CHAIRMAN BERNANKE. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Mr. Chairman. I view the economic news as somewhat disappointing relative to my expectations. Unfortunately, there is not much evidence that the U.S. economy is breaking out above the 2 percent growth path that has prevailed since the beginning of the economic recovery. In other words, an increase in the pace of economic growth consistent with sustainable improvement in the labor market outlook still appears to be lacking. In terms of the outlook, I continue to believe that the economy will pick up speed next year as the degree of fiscal restraint subsides and the post-crisis healing of the U.S. economy continues. But this is a forecast, and it's not a reality yet.

Also, it seems to me that there are some notable uncertainties and risks with respect to the growth outlook. In particular, we don't have a good idea how much the rise in mortgage rates since May will damp housing activity. What we have in hand indicates an impact. We have seen a decline in mortgage originations for purchase and pending home sales, for example, but how large and long-lasting the impact will be isn't very clear to me. Also, it strikes me that the

risk from the fiscal side will be unusually high over the near term. I don't have any clarity about how the Congress will deal with funding the ongoing operations of the U.S. government at the end of the month, or how the debt limit situation will play out during the late October–early November time frame. But there certainly are risks in that direction.

With respect to the inflation outlook, I'm not particularly troubled by the fact that core PCE inflation is somewhat below our objective currently for several reasons. First, the earlier downtrend appears to have bottomed out because the most recent trend the past few months is above the year-over-year growth rate. As time passes and the earlier, lower observations drop out, the year-over-year rate is likely to drift upwards. Second, if we look at a decomposition of the inflation data, it shows that the most recent slowing in inflation has been less widespread across core goods and core services than was the case in 2010. And, third, inflation expectations remain pretty well anchored above the current core PCE rate, which should exert some upward pull on inflation, although I must admit the five-year, five-year forward has drifted down a little bit recently, and so that deserves watching. So the fact that inflation is a bit below our 2 percent objective doesn't really get that much weight from me in my monetary policy views.

When I put it all together, it strikes me that it's a time to be cautious in jumping to conclusions. While it's true that every day the economy shows evidence that it will successfully resist the downward pull from this year's large dose of fiscal restraint, I have not become more confident about the outlook for the next year. I am also not yet sufficiently confident to support a reduction in the pace of asset purchases, but more on that tomorrow.

Finally, with respect to the issue that Governor Yellen raised about the federal funds rate forecast in 2016, my forecast is 2 percent. It is very much a headwinds story. It is not really an accommodative monetary policy story. I think the equilibrium short-term real rate is going to

stay low for a very long time. Credit availability is going to take a long time to heal. Securitization markets in the mortgage area haven't really restarted at all to date in any meaningful way outside of the agency market. This is one reason, of course, that for many meetings I have talked about my hesitancy to embrace the Taylor rule.

CHAIRMAN BERNANKE. Governor Yellen.

MS. YELLEN. Thank you, Mr. Chairman. The data we have received since our July meeting have been mostly on the disappointing side. I was pleasantly surprised by the sizable further decline in the unemployment rate, but, as others have noted, several weak spots lurked beneath the surface of the past two employment reports. In particular, the slowing pace of payroll gains suggests that productivity growth may finally be picking up. If so, job growth may well continue to move down in coming quarters, rather than reverting to the near 200,000 per month pace we enjoyed earlier this year, unless output growth strengthens substantially. Of course, seasonal adjustment issues appear to be particularly challenging during the summer months, so it is rash to jump to the conclusion that the pace of improvement in the labor market has in fact slowed. And it is worth recalling that for the past two years, the initially reported August nonfarm payroll gains were revised up substantially over the following two months.

But it is also possible that the weaker tone of those reports and incoming data on spending portend yet another episode in an all-too-long series of disappointments pertaining to the momentum of the recovery. It is worrisome that household spending outside of motor vehicles appears to have slowed over the summer. Mortgage rates have risen yet further since our July meeting, and it seems increasingly likely that the soft tone in housing starts and home sales, as well as the apparent slowing in the pace of house price gains, may reflect restraint from those higher rates.

Furthermore, after a most welcome six-month hiatus, heightened uncertainty about the course of federal fiscal policy and drama around the debt ceiling are again poised to return to center stage. In light of these risks and headwinds, it would hardly be surprising to see firms exhibit caution in their hiring decisions, and the anecdotal reports I have been hearing are consistent with such an expectation.

Despite the recent disappointing data flow, I have cut my modal outlook for real activity and inflation over the forecast horizon only slightly relative to my June SEP submission. However, in light of the restraint resulting from the tightening in financial conditions since June, these trajectories for real activity and inflation are now associated with a somewhat lower path for the federal funds rate than I had anticipated in my previous SEP. In other words, I expect that yet greater patience on our part will be required in removing accommodation.

The downward shift in the funds rate path I have incorporated in my SEP is broadly consistent with the revisions since June in the Tealbook baseline path for the funds rate. In the remainder of my remarks, I would like to highlight a striking feature of the Tealbook baseline, which is close to my SEP submission and along the lines of the comments I made earlier. That's just how low the real federal funds rate path must be for many years to come for the economy to achieve our maximum employment and 2 percent longer-run inflation objectives. This is the point that President Kocherlakota just made. I'll argue that this feature of the forecast ought to play an important role in our communications pertaining to our forward guidance. The question is: Just why does the funds rate path in the Tealbook baseline remain so low for so long? To answer this question, I thought it would be instructive to examine the implied path of the equilibrium real funds rate, or r^* for short, along the Tealbook path.

The measure of r^* reported in the Tealbook is defined as “the real federal funds rate that, if maintained, would return output to potential in 12 quarters.” This measure currently stands at minus 1.6 percent. Tealbook does not report how r^* evolves over time, so I asked the staff to compute the path of r^* in the extended Tealbook baseline. As it turns out, this rate rises only gradually over time. By late 2016, r^* reaches a level near zero, still roughly 2 percentage points below its long-run value. And even by the end of 2018, it is only around 1¼ percent. I would note that the prolonged depression of r^* in the Tealbook baseline appears consistent with other estimates. For example, as President Williams noted, the Laubach–Williams estimate of r^* currently stands around minus ½ percentage point. And the four DSGE model forecasts that were updated for this meeting suggest r^* at the end of 2016 ranging from around ½ to 1½ percent—President Kocherlakota pointed this out too.

The equilibrium real rate is an important statistic because it summarizes the level of the real federal funds rate required for the Committee to attain its maximum employment objective. Its slow evolution back toward a historically normal level of 2 percent in the Tealbook baseline reflects the persistent drags from a variety of headwinds that have been afflicting aggregate demand. These headwinds are expected to abate, but they do so only gradually in the staff forecast and those of several of the DSGE models.

To better understand the impact of several headwinds that we have been discussing, I asked the staff to run an alternative scenario with three features. First, the restraints holding back the housing sector lift over the next two years, leading the nominal spending share on residential investment to return to its historical average. Second, fiscal impetus immediately returns to its long-run average contribution to real GDP growth of two-tenths of a percentage point. And, third, risk premiums return to their longer-run averages by the end of this year, instead of

declining gradually over the next three years as in the Tealbook baseline. In this scenario, the current estimate of r^* would be near zero instead of minus 1.6 percent. And it would reach 2¼ percent at the end of 2016. Thus, the simulation suggests that these three headwinds can roughly account for the shortfall of r^* from its long-run value of around 2 percent at the end of 2016.

I see three lessons learned from this exercise. Lesson one is that it helps to explain why in the Tealbook outlook the real federal funds rate remains near zero, even at the end of 2016 when resource slack has largely disappeared and inflation is moving up to our 2 percent objective. One might think that if r^* were near its 2 percent longer-run value in the Tealbook and the Committee's modal SEP projections, a near zero real funds rate in 2016 as the economy is approaching full employment would cause a substantial undershoot by unemployment of its natural rate and an eventual overshoot of our 2 percent inflation objective. But there are no such under- and overshoots in the Tealbook baseline.

Lesson two is that the economy is able to attain full employment during a period in which r^* is still severely depressed only because monetary policy takes this fact into consideration both before and after liftoff of the funds rate from the zero bound. I am just really repeating what President Kocherlakota told us. Importantly, the gradual path along which the funds rate returns to its longer-run normal level of 4 percent in the Tealbook baseline is not any reflection of a Woodfordian monetary policy in which the FOMC is intentionally committing to a path for future short-term interest rates that entails an overshoot of our 2 percent inflation objective. The optimal control path in the Tealbook does possess this feature, but it entails a substantially lower path for the real federal funds rate than the Tealbook baseline. Rather, the gradual increase in the funds rate in the Tealbook baseline is simply a time-consistent response to evolving economic conditions, particularly the slow abatement of headwinds. Fortuitously, the funds rate

path required to achieve a return to our dual mandate objectives without overshooting is well approximated by the Tealbook path along which the funds rate is governed by thresholds before liftoff and inertial Taylor (1999) post-liftoff.

Lesson three from this exercise concerns communications. In order for financial conditions today to be appropriate and to bring about the benign outcomes that characterize the Tealbook baseline, it is critically important that the public understands how the Committee is likely to adjust the federal funds rate over time, and that path should reflect the implications of these slowly abating headwinds and slow reversion of r^* toward historically-normal levels. In our discussion of forward guidance in July, we generally agreed that it would be desirable to offer the public greater insight into the factors that will govern the setting of the federal funds rate after a threshold is breached. As I see it, a key such factor is that the slowly-abating headwinds will likely make it necessary and appropriate for the real federal funds rate to rise only very gradually toward its longer-run normal value of around 2 percent.

I will argue tomorrow that we can and should strengthen our forward guidance by communicating that we expect headwinds to remain highly persistent. But with an appropriately accommodative policy, we expect to counter them and achieve our objectives. Since Sarah isn't participating in our meeting today, let me say that I see language along these lines as very much in the spirit she has tirelessly urged—namely, that we convey a positive and confident can-do and will-do message to the public.

CHAIRMAN BERNANKE. This is maybe for staff as well. Where does the risk premium fit into the model? I mean, where is it appearing?

MS. YELLEN. This is the equity risk premium, and this is also the premium of BBB-rated corporates relative to 10-year Treasuries.

CHAIRMAN BERNANKE. Those aren't unusually high, are they?

MS. YELLEN. They are.

VICE CHAIRMAN DUDLEY. The equity risk premium is very high.

CHAIRMAN BERNANKE. Okay. Thank you. Governor Tarullo.

MR. POWELL. Mr. Chairman, there was a two-hander here.

MR. BULLARD. Governor Yellen, usually if we tell a headwinds story, then you would say also that that's going to slow the pace at which inflation is going to return to target and at which the output gap is going to close.

MS. YELLEN. And it does.

MR. BULLARD. You're telling a complicated headwinds story in which these variables move all the way back to normal values, but somehow there are still headwinds at work that are keeping the real funds rate at this low level. And so I'm not sure I'm following your story because of that.

MS. YELLEN. I'm telling a story, and I believe I'm simply describing the Tealbook baseline, and David and others can correct me if I'm wrong. What's going on in the Tealbook baseline is that there are headwinds, and they are gradually abating. Now, at the present time, those headwinds are so strong—resulting in an r^* of minus 1.6 percent—that we cannot totally offset them because of the zero bound. So, we are not able to bring this economy to full employment. But the headwinds will abate over time. And as they abate over time, we are able to leave the zero bound. Now, by the end of 2016, by having a low value of the real funds rate—it is exactly what Narayana said—the headwinds are still there, but by keeping the real federal funds rate well below its long-run level of 2 percent, we succeed in combating them and achieving our goals.

Now, once we have achieved our goals, say by the end of 2016 and the years after that, those headwinds continue to abate. And as they continue to abate, we need to raise the real federal funds rate in order to stay where we want to be. So over time, from 2016 out through, say, I don't know when exactly, maybe 2020—by then, they are fully gone in the baseline, and we go back to a 4 percent funds rate with 2 percent inflation. But in the years before that, the economy is where we want it to be, at full employment with 2 percent inflation. We are achieving our goals, but the setting of our policy that is required to do so entails a real funds rate that is lower than the long-run 2 percent.

MR. BULLARD. Okay. I appreciate that story. Maybe this is a question for David Wilcox, but why isn't this also slowing down the pace at which our other key variables are coming back? See, you've got a system where this thing comes back to steady state. We've still got the policy rate at the low level. Normally, you would think if those headwinds were in place, everything would go more slowly back to steady state, including policy.

MR. WILCOX. I think the simple answer is that monetary policy in the projection is endogenous to the existence of the headwinds. Were it not for the highly accommodative stance of monetary policy, it would not be the case that the resource utilization gap would have come back to zero, and that inflation would be headed back toward the 2 percent objective.

MR. BULLARD. Okay. Thank you.

CHAIRMAN BERNANKE. President Evans.

MR. EVANS. Isn't this sort of like, the Taylor rule ought to have a time-varying intercept, which is the real interest rate?

MS. YELLEN. That would be one way to do it.

MR. WILCOX. In our projection, it does in effect.

MR. EVANS. That's what it needs. It's not time-varying the way that John Taylor wrote it down in '93.

MR. BULLARD. Okay. But that's saying that, for the properly calibrated Taylor rule, we'd be at the right policy at the time that our variables hit the target.

MR. WILCOX. Right.

MR. BULLARD. Okay.

MS. YELLEN. Alternatively, your inertial Taylor rule, if it doesn't have that property, moves the funds rate up only very gradually and so, in effect, achieves what you would have with the time-varying—

MR. BULLARD. But under that story, then, there is nothing to say about the policy rate still being below the right level once our key variables hit target.

MR. KOCHERLAKOTA. It will be below the rate that would be historically true and what will be true in the future.

MR. BULLARD. But it will be right given the time-varying intercept—absolutely.

MR. KOCHERLAKOTA. Let's stop. [Laughter]

CHAIRMAN BERNANKE. Okay. We have agreement. Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. Like many others, I found the data that have become available between June and today not clearly establishing the steady improvement contemplated by the baseline projections of the majority of the Committee at the June meeting. But the preliminary SEP suggests that as a group we are sticking with that basic narrative, albeit with the improvement delayed a bit, and less optimism about the upper range of that improvement. And I'm part of the group, sticking to a projection of modest to moderate increases in GDP and declines in unemployment over the next couple of years. But I suspect

many of us—and I think the staff also, as reflected in the Tealbook—have less certainty around that projection than we had back in June. So, once again, we find ourselves revisiting the possible explanations for why that may be the case. And I, at least, tried to ask myself what new evidence there may be for any of these possibilities.

One explanation is that the numbers we have been receiving are somewhat misleading, so maybe things aren't as mixed toward the disappointing end as we think. There is always the possibility of noisiness in the data, of course, something that is apparently more than usually likely with August employment numbers, as David mentioned in his initial presentation.

Quite a different take on the possibility of the numbers being misleading was, as John Williams mentioned a moment ago, put forth in an interesting staff presentation at yesterday's Board meeting. It suggested that actual output may have been understated by the GDP numbers of late, and that the higher GDI numbers are, based on past observation, likely better predictors of what future GDP will look like than our current GDP numbers themselves. There is a little bit of support for that hypothesis in the ISM numbers, which have been a bit of a bright spot in the otherwise very gray data of late.

The second explanation is what the Tealbook calls the "Supply-side damage" hypothesis, and we've talked about this one a lot over the past few years. My view has been that the longer unemployment stayed elevated, the labor market impaired, and business fixed investment relatively low, the more likely it was that there would be some lasting structural damage to the economy following on from the major dislocations of 2008 and 2009. But I have also been of the view that, given the amount of slack that still likely remains in the economy, we're not really able to judge how much damage there has been and won't be until the recovery has proceeded a fair ways further. And, thus, there's been no near-term implication for monetary policy.

My bottom line on the structural damage hypothesis hasn't changed in any basic way, but there is one piece of data that provides some evidence of current, as opposed to inferred or anticipated, structural damage effects. That is the pattern of exit from long-term unemployment. For quite a while, that was actually something of a rebuttal to structural damage arguments. Recently, though, the transition rate of the long-term unemployed to employment has dipped down a bit, more so when considered relative to the exit rate of the short-term unemployed, and the transition rate of the long-term unemployed out of the labor force has continued to tick up. The latter was for a while probably largely attributable to the expiration of extended UI but now may reflect something else. Neither of these changes in the transition destinations of the long-term unemployed is dramatic, but they probably bear watching over the next couple of quarters.

A third explanation has been loosely stated—the headwinds explanation of factors unleashed by or following the crisis, which impede recovery. Presumably, the difference between headwinds and structural damage is that the latter cannot be counteracted with more fiscal or monetary stimulus, whereas the former can—hence, the implicit metaphor of an airplane throttling up to maintain speed. I guess you could make the case that, after a while, headwinds cause damage, but I'm not going to go down that road. The kind of headwind most obviously characteristic of a financial crisis aftermath is that there are high amounts of debt at households, financial firms, and nonfinancial firms, all of which becomes harder to manage in the face of declining asset values and income. But once balance sheet repair progresses far enough, that headwind should abate. With nonfinancial firms, at least large ones, sitting on a lot of cash, and financial firms having been strengthened substantially, and household income-to-debt ratios back to about 2003 levels, there is a pretty good case for the proposition that the repair process should

be far enough along in enough households and firms to permit renewed purchases, borrowing, and lending.

This is probably the main reason why a sustained steeper path of recovery began to seem more plausible to me earlier this year. I knew Janet's intervention was coming, so I haven't had to try to develop all of this myself, but as Janet just reminded us, we are facing a different set of headwinds that continue to provide a different explanation. Some, such as the extent of fiscal tightening, have blown up since the recession ended. And others, such as the very slow recovery of the housing industry, continue to blow even after the rain has stopped, like the tail-end of a hurricane. These headwinds, presumably, can be offset with continued monetary stimulus. The headwinds hypothesis, of course, presumes a good bit of slack in the economy. And, as has been the case for some time, this presumption continues to be supported by what I might term a negative piece of evidence—that is, the absence of any indication of wage pressures. This is true not only in the aggregate, but also in a somewhat more decomposed form, as revealed in a plotting of the distribution of average wage growth, which shows that none of the skewing that one might expect to see toward the upper end, where sectoral pockets of labor shortages lead to significant wage increases, has actually occurred.

I suspect there is something to each of these three explanations, and the relative importance of each over time will, thus, obviously be critical to our decisions. For now, though, I don't think that the recent run of fairly disappointing data has changed the basic story of an economy still in need of greater aggregate demand. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Fisher.

MR. FISHER. Thank you, Mr. Chairman. I'm going to talk about four things: my region; briefly, my CEO contacts; the economic forecast; and financial conditions, which I want

to stress a bit at length. I'll dispense with whatever my forecasts are. I am number nine; I'm in the central tendency. Let me come to my District. I was actually hoping Janet would continue this path of driving across the country.

MS. YELLEN. There is still tomorrow. [Laughter]

MR. FISHER. Well, I'm haunted by it. Several years ago driving down I-35, which is an interstate highway, I saw a bumper sticker in Houston, which was priceless, and it reminds me of conditions today. It said, "Please, God, give me another boom, and I promise I won't screw it up this time." Well, we are still in the midst of a boom in my District. Texas nonfarm payroll employment grew 2.3 percent in July. Service sector revenue rose at a slightly faster pace than it has been. In August, retail sales growth picked up sharply.

Our housing market just continues to boom. July indicators for home permits, starts, and sales, all increased from June. And, the hottest area of our state, which according to the *New York Times* is the most diverse city in America, is Houston. Just to give you some numbers here, 56 office buildings are under construction with 6 million square feet. The kind of caution that President Williams mentioned—and I think I know who the San Francisco developer is—we just don't seem to be exhibiting here. Houston alone is now up to 2.8 million jobs and created 97,000 jobs in the past year.

Interestingly, our real exports from Texas rose 4 percent in July, while those for the country were flat. We do have an offset in terms of federal payrolls, but the growth in terms of employment in our state and the decline in unemployment is not being led by energy, it is being led by computers and autos and exports. So just a quick reprise of what's happening in terms of the Eleventh District—it is still booming.

In terms of CEO contacts, I would say that both consumers and businesses are driven by what I would call “value maximization.” You see it in terms of consumers and where their purchases are. I’ll walk you through very briefly the best example I can think of, which is casual dining, one of my favorite areas. If we look at Yum! Brands, which is the largest of all, in talking to their CEO, their value propositions, which are Taco Bell and Pizza Hut, are growing significantly. Believe it or not, Colonel Sanders Kentucky Fried Chicken is not a value proposition. It’s highly priced within the price-of-food segment, and they are suffering. From all the reports I have, you see consumers being driven increasingly to value proposition, whether it’s in retail stores, whether it’s in clothing, whether it’s in malls, whatever it may be.

The same thing is happening in terms of businesses. The value proposition for business is to drive productivity, and I come back to the Verizon transaction: \$43 billion not to employ one additional person, but instead to consolidate an already controlling position they had, 40 percent in Vodafone. Mr. Chairman, as you know, I have a pretty good list of contacts, and almost every business I talked to has improved its balance sheet. They’re continuing to raise funds, they’re continuing to issue. They’re rich, but they’re driven by productivity enhancement first and employment growth second, and that concerns me in terms of the challenge of our mandate.

No one has mentioned yet in terms of their corporate contacts a key driving factor for the investment that is taking place, and that is the bonus depreciation schedule and incentive that was offered this year. It expires on January 1, 2014. One example: AT&T will spend \$21 billion in cap-ex this year. Every billion dollars that they spend leads to 7,000 temporary workers. As of January 1, 2014, it will go to zero. So here’s a good example of tax incentives dovetailing with accommodative monetary policy, where accommodative monetary policy leads to further

employment. But I do want to warn my colleagues that unless we see more favorable tax treatment, here's just one instance where we're likely to see that additional employment come to a screeching halt in 2014.

Now, I've heard so many people around the table talk about the glass being half empty, and I must say I'm more on the wavelength of President Williams and President Pinalto. With all due respect, I'm less on your wavelength, Governor Yellen and Governor Tarullo. That means I cannot say that we've had economic reports on the disappointing side over the last several months. We've had sustained low real interest rates, abundant credit, improved household and strong corporate finances, pent-up demand for consumer durable and capital goods, and to me that provides the basis for an acceleration in the pace of recovery. We heard around this table concerns about Europe and several major Asian economies and financial systems. They still linger, but in several instances they have begun to abate.

We continue to hear from every businessperson we talk to about ongoing and prospective fiscal restraint, uncertainty about the cost of health care—which no one raised this time—and other regulations that act as a drag on the economy. However, major states such as California and Texas, for example, are much, much healthier. We heard from President Pinalto about the NFIB small businesses' borrowing and hiring.

Since our July meeting and in recent months, the unemployment rate is down—it's the reference point we have proposed for the statement we're issuing tomorrow. Initial claims have continued to trend downward with the exception of the most recent report, which had some oddities, as you know, due to the computer systems in two states. Year-over-year real GDP growth—and very importantly, as President Williams mentioned, GDI growth—has improved. The ISM numbers that you mentioned, Governor Tarullo, have increased, and as far as inflation

is concerned, it not only seems to have stabilized, but according to almost all measures, it is firm. PCE inflation and the trimmed mean firmed, and, of course, we saw a slight uptick in the 12-month rate of core CPI reported this morning. And then, very importantly, one of the subjects that I continue to monitor, which is the spread on junk debt, has continued to narrow.

And that puts me onto financial conditions. I've heard from several of our interlocutors at this table that we have increased restrictiveness; financial conditions have tightened. I would submit that outside of real estate, credit conditions are, if anything, easing, not tightening. Let me just give you some statistics. The latest pre-FOMC financial Board briefing notes that "net credit flows to nonfinancial businesses have remained strong." According to the latest QS Assessment of Financial Stability, "SLOOS responses indicate that the easing of standards occurred across all major categories of loans captured in the survey, with the notable exception of residential real estate loans." Indexes compiled by four of our Federal Reserve Banks uniformly show that financial stress is well below average. They showed a generally modest increase in stress from April to June, and then a generally modest reduction in stress, particularly the Chicago and St. Louis indexes, between June and August.

Stock prices have increased over the past several FOMC meetings and since the July meeting. As I mentioned earlier, the junk bond spread has declined, depending on which measure you use, and I monitor two measures. It is certainly under 4 percent according to one measure, and it is barely above 2 percent according to the other, which is the Merrill Lynch U.S. High-Yield Cash Pay Index less Moody's Seasoned Aaa Corporate Bond Yield. And as far as the dollar exchange rate is concerned, if you look at our major trading partners, we're pretty much even over the last several months. So I would dispute the notion that we have highly restrictive financial conditions or that financial conditions have tightened. They have tightened

certainly in the mortgage area. In the housing market, I think the speed at which mortgage rates have increased has slowed down.

There are two oddball statistics that I like to monitor with regard to housing: One is lumber shipments, and they have slowed to a growth rate of 8 to 12 percent, similar to the rails; and the second would be my all-time favorite indicator, which is the repair and maintenance of the microwave ovens that 7-Eleven operates. They operate 10,200 stores in America. The average purchaser there has \$48,000 a year in income. Almost all construction workers shop at 7-Eleven. The maintenance rate for their microwaves is important because that's where people take their food to warm it up. It has ramped up to a rate of repair that's 17 percent this annum, above 11 to 12 percent last year. So there are some counterindicators in terms of lumber shipments and the maintenance rate of microwave ovens, and the fact is there are certain areas that are still booming, though clearly the bloom is off the rose, and we do see financial tightening in the residential sector.

It's certainly the case that longer-term interest rates have increased substantially over the May to August period. Now, to the extent that this reflects a stronger growth outlook, it's not necessarily bad. To the extent that the rise in longer-term rates reflects expectations of higher short-term interest rates or greater uncertainty about the future path of short-term interest rates, as argued by the Board staff, the appropriate remedy seems to me to be clear communication about the post-liftoff conduct of policy. Failure to scale back asset purchases at this point, as far as I'm concerned, based on what I hear from the business sector and what I believe and will argue tomorrow, would create even greater uncertainty about future policy. The most important thing to me is post-liftoff guidance, and I'll expand on that tomorrow during my comments.

Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Stein.

MR. STEIN. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Oh, I'm sorry. President Bullard.

MR. BULLARD. President Fisher, could it be that 7-Eleven is not replacing their microwaves as swiftly as they used to, and, therefore, the repair rate has gone up?

MR. FISHER: I've actually drilled in on it with the CEO. [Laughter] I was able to get 10,200 stores out of the 50,000 stores worldwide, and they're actually measuring this. It's an interesting indicator because it's great for cocktail conversation. Thank you.

CHAIRMAN BERNANKE. You know who would have loved that story? Alan Greenspan.

MR. FISHER. In fact, he told me that story. [Laughter]

CHAIRMAN BERNANKE. Governor Stein.

MR. STEIN. Thank you, Mr. Chairman. Well, boy, I figured I would play it straight this time and not try to talk about policy, not try to change the subject entirely. I'm going to talk about the outlook, and I'm going to be highly repetitive of things other people have said.

First of all, in my SEP forecast, my outlook for unemployment is little changed from the June meeting. I have it at 7.2 percent at the end of this year, going down to 6.5, and then 6.0. I have cut back my projections for GDP growth considerably. I've taken about ½ percentage point off for each of the next two years. So, in other words, like President Lacker and a number of others, I'm beginning to capitulate a little bit on my estimate of productivity growth in the face of the evidence that we continue to see—in particular, this ongoing tension between the data on the labor market versus those on output growth. The last 12 months are a very good example. If the only fact you knew about the last 12 months was that the unemployment rate had come down

by 0.8 percentage point, you'd say, well, this is a pretty good 12 months. On the other hand, if the only fact you knew was that GDP growth was, I think, 1.7 percent over the last 12 months, you'd say that's pretty lame.

And so the economy is stuck in the mud. The obvious reconciliation—modulo the Jeremy Nalewaik thing, measurement error, which also may well be kind of important—the obvious other reconciliation is productivity growth. You know, the economy has added a lot more labor, but that just hasn't resulted in a lot more output.

As I said, I'm beginning to revise down my estimate, but the thing I thought about is that it's not really so much about the point estimate. Really what shapes how you think about this is how diffuse your priors are. I realized I was going into this with a relatively fixed set of priors, and I thought, what's going to happen if I just say to myself, "I really have very little clue about this whole productivity thing." How will that shape how I think about it?

Imagine the following thought experiment: Suppose the next six months are a run, just like we've had so far this year. Unemployment just keeps coming down 0.8 percentage point a year, and GDP just continues to muddle along at 1½, 2, 2¼ percent, something like that. It seems like there are two ways you could interpret this. If you have pretty tight priors around what productivity growth is, you say, "Wow, that's pretty bad news for the labor market outlook." That is to say, well, unemployment has come down, but productivity is a given, and eventually these two things are going to have to true-up to one another. So, future unemployment is not going to come down as fast—it's sort of the euphemism everybody says—"it wasn't supported by strong GDP growth." On the other hand, if you're just really highly agnostic and uncertain about productivity, you say, "Well, the labor market is doing pretty well, and I guess I learned more. I had uncertainty. I've learned more, and I have to just revise down

my productivity estimate.” So I guess I’m philosophically moving in the direction of the second way of looking at it. I don’t have a strong view on productivity one way or another, but I certainly have a stronger view that I really don’t have a clue.

One implication of this is that it shapes your perspective quite a bit. When I listen to Vice Chairman Dudley and President Rosengren, you implicitly have much tighter priors. In other words, because you’re saying, “Look. We’re seeing unemployment come down, but it’s not supported. We don’t see momentum. We don’t see the kind of breakout momentum in growth that we’re looking for,” that implicitly maps into this idea that the two ought to go together in a certain way. I think if you have the alternative view, it might be a little bit of a mistake to have an output milestone. You know, it may well be that we’re going to get all the way back to full employment, and it’s never really going to feel all that good in terms of having really fast growth. So I just want to put that out there, not that that’s the leading case, but it seems like it’s a plausible scenario that one would want to think about, again, in terms of how one sets milestones for the labor market outlook.

In terms of risks, many people have already talked about financial market conditions. I agree that seems like the big risk. We’ve clearly had a tightening of financial markets—I mean, let me be careful: We’ve clearly had an increase in interest rates. David, I thought your thing was really interesting. I thought, “Well, we’ve had this big increase in interest rates.” It does depend a little bit on how you frame it and what horizon you look at. If you look at the period since May, it’s very big. Now, May was really a low point, and in some absolute sense, rates were really quite low. When you frame it over a yearly horizon relative to a forecast, which is another way of thinking about it, then there’s a less impressive change, and I’m not sure quite what the right way of framing it is—it depends on the question you’re asking.

But taking the increase as given, then there's the question of, "What is it going to do?" and here I would just basically repeat what Richard said. My expectation is that there could be a potentially significant effect on housing and housing-related stuff. Less so in other areas because of the configuration of other asset prices—President Williams said this as well. So, for example, if you think about corporate investment, you think about the fact that the base rate has gone up, but corporate credit spreads, other measures of corporate credit conditions, the SLOOS, all that kind of stuff, hasn't moved. We have quite a bit of good evidence that corporate investment responds to things like the credit spread. Egon Zakrajsek on our staff and a bunch of others have done pretty convincing work that credit spreads and things like credit spreads matter. But I think you would be harder pressed to find evidence that the base Treasury rate matters as much for corporate investment. Some of that is just an econometric problem because there's an endogeneity. When rates are up, the economy is good, and so it's kind of hard to find the effect, but my gut instinct is that all else equal, I would have been much more worried had we seen this rise in Treasury rates accompanied by a significant widening of credit spreads.

I think that's just worth bearing in mind, and I don't say this so much to downplay the risk that we have from rising rates, but as we start evaluating the incoming data, I think you want to have a bit of a hypothesis with which you evaluate it, and a sense of where you want to look for problems. That is to say, if we see housing start to really tail off relative to other stuff, I would be inclined to infer that that's telling us something about the effect of financial market conditions. If we just see a general slowing or if we see corporate investment being a little disappointing, I'd be a little more hesitant to say, "Oh, that must be coming from financial conditions," because the channel is just a little bit less apparent. I think we want to be a little bit careful about not overattributing all disappointments to the change in financial conditions

because, of course, there are disappointments for lots of other reasons. Thank you, Mr. Chairman.

VICE CHAIRMAN DUDLEY. Mr. Chairman—

CHAIRMAN BERNANKE. Vice Chairman.

VICE CHAIRMAN DUDLEY. I want to stipulate that I think what you're saying is completely reasonable, that it's very possible that productivity growth could stay slow for an extended period of time, and so, with 2 percent GDP in motion, the unemployment rate could keep coming down.

What I would say is two things. One, I think we have to be pretty uncertain about productivity growth partly because of what happened early in the cycle. Productivity growth was unusually high. So it's a little hard to say how to interpret this low period. Is this something that's temporary, or just the flip side of the very high productivity growth we saw during the downturn and the early stages of the recovery?

And, two, we've had these other episodes during this expansion when we've seen the employment numbers pick up, and we've gotten very excited about that, and we think the liftoff is at hand because employment is going to generate stronger income, and that's going to support higher aggregate demand—and then we've seen this disappointment. It's this chronic disappointment in terms of the response to these seeming accelerations in payroll growth where you haven't seen the follow-through that makes me feel a little bit more reluctant to buy into employment growth to the degree that maybe you do.

CHAIRMAN BERNANKE. Governor Powell.

MR. POWELL. Thank you, Mr. Chairman. My SEP forecast shows somewhat slower growth than the baseline through 2015. I've got growth at 2 percent this year, 2.6 percent next

year, and 3.1 percent in 2015. Let me say that I don't intend it as a pessimistic case. It's just that I really thought the case for a sharp acceleration was coming together pretty well in the late spring. We had strong PCE growth, fast-rising housing prices. Consumer confidence was high. As Dan points out, household delevering is ongoing, and all of that is happening in the face of strong fiscal winds that were meant to be waning in the latter half of the year.

So, important aspects of that story have changed in a weakening direction. PCE has been marked down. The path and effect of fiscal tightening are much less clear now. Consumer confidence has fallen back. Housing prices are increasing, but at a slower and perhaps more sustainable rate. So again, I don't mean it to be a terribly pessimistic outcome. I just think I'm back to expecting growth to increase at a significant but less robust pace, like many around the table and, frankly, like the Tealbook.

And with that lower growth, my forecast also calls for unemployment to decrease a little slower than in the baseline, to 6.2 percent by the end of 2015, which is still a faster pace than the weak GDP growth would predict. Let me first say that I thought the alternative simulation in the Tealbook was very interesting on this. I'm not the only one who was very taken by Jeremy Nalewaik's interesting briefing on Monday—at least four or five of us have mentioned that. I won't go into that in great depth now. I'll just say that there are the three narratives that he mentioned, which are that GDP may be being misleadingly reported and will be revised up later, that we may be seeing supply-side damage, or that this might be just more catch-up from the period of excess firing during the financial crisis. And maybe the explanation lies in some or all of those. In any case, what we're seeing is a stronger reduction in unemployment than we would expect to see, and there's just no way to know how much longer that will continue—so I predict that it will.

And that overall slow improvement narrative is what I heard from the pretty large group of people that I spoke to before this meeting, including CEOs of banks of all sizes whom I inherited from Governor Duke, and also private equity and hedge fund investors, business executives, and a bunch of others. There's this feeling that we will see slowly improving conditions, but really no expectation I can detect of a sharp improvement.

I also think, and others seem to agree, that the tail risks have probably diminished and are changing, but they're still there. In particular, the public and the markets seem to think that this fall's debt ceiling and government shutdown confrontation is just more bread and circuses to entertain the populace, and that amounts really to a huge unpriced risk. Long-time participants in these matters are very worried and see no way out. The Congress has about seven days left in session between now and mid-October to find an answer—and at least in 2011, there were talks going on. Now there are not even any talks. So this is really an accident waiting to happen.

Let me then turn to current conditions, and the question for this meeting, it seems to me, is how those conditions measure up against the framework for reducing purchases that we agreed upon at the June meeting. At the July meeting, I suggested that we were now in “execution mode” after the articulation of a loose tapering-and-stopping rule, and that phrase has a comforting flavor of technocratic precision, which turns out to have been aspirational or perhaps misleading. [Laughter] Nonetheless, this is still an exercise in being faithful to what the Chairman laid out in the June press conference, which was that for the Committee to taper, incoming data needed to be broadly consistent with the Committee's June expectation of three things: continuing gains in the labor markets, moderate growth that picks up over the next several quarters, and inflation heading back toward the 2 percent objective. So I'm going to

touch on each of them quickly. And this is admittedly an attempt to simplify some pretty complicated underlying issues.

As for continuing gains in the labor markets, the trailing three-month payroll average is now 148,000, and the August number was 169,000. The expectation in the June Tealbook was 160,000 per month for the third quarter. Unemployment has declined more than in the June forecast, although no one likes to see the decline in participation. The staff's index of labor market indicators and several others are slightly up. In addition, the cumulative improvement in labor market conditions is significant. We're down 0.8 percentage point since the announcement of the program, and the gap between last September's unemployment forecast and this September's is now a full percentage point starting in 2014. So with all of that, it's hard for me to conclude that labor conditions are not broadly consistent with June expectations.

The story on growth picking up is complicated, it seems to me. The Tealbook continues to call for growth to increase significantly during the balance of the year at a somewhat lower rate than was expected in June, but given all of the near-term uncertainty around productivity and the link between GDP and unemployment, this part of the test is one where we have to be very careful, and it probably has the least clear connection to the fulfillment of our mandate right now. And it's also worth pointing out here that there are large standard errors around initial estimates of both payrolls and GDP, which should probably steer us to smooth through bad months and good months as well, and look at the longer-term data going back a year or so. As far as inflation is concerned, readings since June, to me, suggest that inflation has stabilized below our mandate-consistent rate, and that the very low readings of Q2 were probably an anomaly. I would say that incoming inflation data are broadly consistent with the forecast. So I would say all three conditions are broadly consistent and have been met.

There are two other aspects of conditions that are worth mentioning, and they have been mentioned. The first is the tightening in financial conditions, and overall, I continue to think that financial conditions are in a better, more sustainable place. The sector in which higher rates could hurt the recovery is clearly housing, and the evidence is mixed so far. I do think the better view for now seems to be that the housing recovery is slowing down to a more sustainable pace. Housing is still affordable by our measures. Rates are still historically low. Household formation can only go up, and by a lot. So the medium- and longer-term story for the housing recovery is intact. As Richard pointed out, we don't see tighter financial conditions for investment-grade or non-investment-grade borrowers. We continue to see a gradual loosening in bank lending standards. We see the equity market up or at least flat since the previous Tealbook and, I think, up since June. So the real issue with financial conditions is that banks don't seem to want to bank with anyone who doesn't have pristine credit, and that's a concern that's just not directly related to asset purchases.

I do understand the desire not to provoke another round of tightening, and I think that expectations of a taper are high enough that any reaction would be modest. Of course, none of us will ever be sure of that at this meeting or at any future meeting.

Finally, the second ground I think it's important to talk about is the possibility of turbulent events in the near term, particularly the likelihood of an ugly debt ceiling confrontation. If, for example, we taper, financial conditions tighten, the debt ceiling standoff turns bad, and the economy weakens, we're going to be accused ex post of tapering too soon—and let's be honest, there's just no way that's going to feel good. The possibility of ex post regret is real, but I suspect it will be no less real in future meetings.

The bottom line for me is that the Committee, I think, would be on firm ground in concluding that the test set forth in June has been met. I don't argue that the data compel that conclusion or that the alternative we are obviously leaning toward is unreasonable. And, Mr. Chairman, I will stop there, lest I inadvertently cross over into policy matters. [Laughter]

CHAIRMAN BERNANKE. I wouldn't want that to happen. Thank you all very much. Let me try to summarize. It feels a little harder to summarize this time than at our previous meeting for some reason.

Generally, the contours of the outlook haven't changed too much overall since our July meeting. Modest to moderate growth is expected to continue. Some, but far from all, expect a pickup, and I think the number of people who expect a pickup has been slowly atrophying over time. I guess Einstein's principle does apply after a while. But there still are, as we can see in the SEP, many people who think there's going to be at least some pickup as the fiscal drag and other headwinds wane. There are downside risks still from fiscal policy uncertainties, interest rates, and from uncertainties about productivity that Governor Stein talked about. Participants continue to see "persistent ambiguity" in the data.

In the household sector, consumer spending has been a little bit on the soft side. Retail sales, soft. Factors that were mentioned included the end of the payroll tax holiday earlier this year, employment insecurity, and declining confidence. There are very few impulse buys, and consumers are more value driven.

The recent labor data have been mixed. Payroll growth recently has been somewhat disappointing, and the employment-to-population ratio—at least for the entire population, as opposed to the working-age population—has been pretty stagnant. Unemployment continues to fall in part because of falling participation and low productivity. However, labor market

conditions have improved meaningfully since September 2012, and participation could rise with the recovery. One explanation a number of people suggested for why the labor market has been improving over the past year was the possibility of mismeasurement of GDP growth, and they cited GDI growth as a possible alternative. Judging the amount of slack and structural damage, however, remains quite difficult. Governor Tarullo talked about that. One indicator that would suggest that there's structural damage is the fact that fewer long-term unemployed are finding jobs. More are leaving the labor force. On the other hand, the distribution of wage changes is not showing skew.

In the housing sector, there are some fundamentals continuing to promote housing expansion, but higher mortgage rates are a meaningful risk in that sector. Auto sales, which are more dependent on short-term rates, have continued to be strong.

In the business sector, firm reports were more positive in some Districts. I have in my notes "apprehensively optimistic," "cautiously optimistic," and then I have here "then there's Texas." [Laughter] The ISM surveys have been encouraging, as has the NFIB survey; anecdotally, however, many firms say that the amount of demand does not justify much hiring at this point, which is inconsistent with some of the messages from the surveys. There's a focus on productivity enhancement, which is something we've heard in previous meetings.

Manufacturing has rebounded recently. For example, President Plosser cited the Philadelphia survey. The auto sector, again, is doing well despite the fall in the yen. Other manufacturing industries are more mixed. U.S. farm income is down, but land values remain quite high.

There was not as much discussion of fiscal policy this time as we've had in recent meetings. President Lacker noted that Richmond respondents see the effects of the sequestration as less than expected, which would imply less acceleration as the fiscal drag wanes. A number

of people, however, did mention the near-term risks associated with the debt limit and with government funding.

In the financial sector, there was a lot of discussion of the increase in interest rates—how much of it was in some sense justified, and whether or not it implied tighter financial conditions. Certainly an important question is whether rates will stabilize at this level or continue to rise. One offsetting factor is higher house prices and stock prices, which will mute the effects of higher interest rates to some extent. A stronger dollar works in the other direction. Household balance sheets and firm balance sheets are continuing to improve, which is consistent with easier terms, as opposed to a higher cost of credit in some areas.

There was a discussion about the long-term path of policy rates. It was noted that policy rates may remain quite low for some time due to persistent headwinds. r^* is kept low by factors such as restraints on housing, fiscal drag, and risk premiums. However, the low r^* , importantly, does not prevent a return to full employment so long as monetary policy is appropriate.

Inflation remains low but is expected to rise gradually toward target. However, inflation has been below 2 percent for a number of years, and breakevens are low. In the shorter term, some of the recent softness in inflation has reversed, as anticipated, and that's true according to a variety of measures. Businesses in most, but not all, Districts report few wage or price pressures. I guess North Dakota would be an exception there. A few participants argued that optimal policy should involve an inflation overshoot, but another participant emphasized that maintenance of credibility requires following through on commitments.

So a number of interesting topics were raised, such as what the long-term policy implications are, whether financial conditions had tightened, whether there's structural damage, what the sources of unemployment declines are, and so on, but I think there is some diversity of

views on the outlook and, in particular, whether we can reasonably expect a pickup in real growth in the near term. Any comments? President Evans.

MR. EVANS. I wonder if I could ask a question of Governor Stein. In trying to think through the stronger productivity hypothesis that you laid out, I was trying to think of some of the other markers that I should be paying attention to. What are the inflation implications if that hypothesis is correct? I would think that unit labor costs would be going down if that's coming about.

MR. STEIN. David, you'll step in and help me if I'm getting in over my head—but it may happen very quickly. [Laughter] I think if productivity is weak, so GDP is growing slowly, but we're taking up slack, inflation will come when the slack is taken up, in some sense. In a very simple limiting case, the unemployment rate would be the right summary statistic. Did I pass?

MR. EVANS. Okay.

CHAIRMAN BERNANKE. Okay. We are going to have Steve Meyer give the introduction in a moment. But before we do that, let me just take a few moments to try to set up what I'm sure will be a very interesting discussion tomorrow.

As a lot of people have already anticipated, we have two plausible policy options that we can discuss tomorrow. One is a so-called small taper, mini-taper, whatever you want to call it, of about \$10 billion or so. By the way, I have been assuming that when we do come to this point of reducing purchases, it will be more or less proportional between different categories of assets. I got that from a discussion we had at the previous meeting. But if anyone has a different view, tomorrow would be a good time to mention that. So that would be one option; the other option we will be talking about is to take no action at this meeting, but to use the statement to indicate

that the Committee is still on track with the broad strategy articulated in June, as long as the recovery continues, and as long as the conditionality described in June is met. I note that either of these options could be combined with tweaks to forward guidance, and I will come back to that in just a minute.

Now, I want to just say first that neither of these options is an unreasonable option, and I have done a lot of consultation, and I have concluded that the Committee is nicely split on the issue. [Laughter] There is an awful lot of fence-sitting as well. I have indicated a little bit about which way I'm leaning, but let me just say a few words on the two sides of the issue. In terms of the advantages of going ahead with a small reduction in purchases, I think President Plosser was the first to mention the communications implications. Governor Stein has talked about this. We have gone through a lot of effort here to set up the situation that we are in now, where by most estimates about 65 percent of market participants anticipate a small reduction in purchases. There may be good reasons not to do it, but if we don't do it, I think there will be a little bit of confusion, a little bit of volatility, and we will have to see what the implications will be for communication. That being said, I think what's being contemplated here, at least as I understand it, is not an abandonment of the June framework. Rather, within that framework, there was discretion—we said "later this year," we didn't say "September." We said "depending on the data." So I think, as I understand it, the no-action plan doesn't involve abandoning the framework, and I'll come back to that.

Now, a second point to make in favor of action is that our original criterion was substantial improvement in the outlook for the labor market. And I would remind you of the conversations we had a year ago when R&S and the SEP were forecasting unemployment now of about 7.8 percent, or something like that, and we were concerned, naturally, about what we

would do if we got no progress in labor markets. And I think, while certainly labor markets are still weak in any absolute sense, it is very reasonable to argue that there has been improvement. Many people have noted that the unemployment rate has come down eight-tenths. The participation rate is down three-tenths, which is more or less trend. So, arguably, a very large part of that eight-tenths is related to jobs. If you look at other unemployment measures—the broader ones, including marginally attached workers or involuntary part-time workers, et cetera—they have come down as much or more as the standard unemployment measure. I won't cite the payroll data, but we know they've been reasonably strong over the year. They have been weaker recently, and I want to come back to that.

There are another couple of indicators that I would mention in rationalizing that there has been some improvement; one is aggregate hours. A couple of years ago, I talked about the fact that in terms of hours, the recession was worse than it was in terms of unemployment. In unemployment terms, this recession was about the same as the 1981–82 recession at its depth, but in terms of hours, it was much worse. And we are seeing some improvement there. We are also seeing some improvement in various sentiment-type indicators of job availability.

So there has been some improvement, and I think it's probably worth noting that this improvement has occurred despite what was an awful lot of fiscal restraint. Again, ex ante, the CBO was saying that this was going to be 1 to 1½ percentage points worth of fiscal restraint, and that that was going to have a very substantial impact on the labor market. To the extent that job gains this past year have been comparable to the previous year, given the fiscal restraint, is a bit of an accomplishment. So we haven't reached substantial improvement, but I think we have made meaningful improvement, and that is good news. That will make our communications easier when we come to the point where we do want to reduce our purchases.

Now, what about the counterargument? What about the argument for not taking action tomorrow? I think that we run a little bit of a risk of becoming too narrowly focused on the goal of winding down the asset purchase program. That's obviously something we want to do at some point. We have said we were going to do it. It's not that we're necessarily being deceitful, but the bigger question, of course, is, are financial conditions consistent with meeting our objectives? I recognize that we can debate how tight financial conditions are. If I look at what has happened to a wide variety of interest rates, the dollar, et cetera, I come to the conclusion that not only the magnitude of the rise but also the speed of the rise is such that we cannot yet be sure that the economy has absorbed this change in interest rates and financial conditions. And so, I think a central part of the argument is that there has been some tightening, but even though the amount of tightening is uncertain, one thing we don't know for sure is whether the economy can continue to move forward or whether this is going to be something that is going to damage the recovery going forward.

Now, if we stay within the framework—which is what everyone is advocating, I think—one might argue that that limits what we can do. One argument for delaying the reduction in purchases at this meeting, as someone mentioned, is the signaling effect. We would be saying that we are not hell-bent on reducing the asset purchase program no matter what, that we are paying attention to the data, we are data-dependent, we are responding to what we are seeing in the economy. That's a very important signal to send. But since we want to be clear, at least as I understand it, that we are staying within the framework that we set up, I don't think we are talking about a radical shift in the policy approach. Consequently, I don't think there is going to be a major easing of financial conditions, even if we defer tightening. Nevertheless, I think there is some argument to be made for signaling that we are indeed committed to provide sufficiently

accommodative conditions to achieve our objectives. I will argue in a minute that as we go forward in time, we may have some other alternatives that are not as useful at the moment.

I have two other observations about the no-taper option. One is that the costs of the asset purchase program have moderated now that the increase in interest rates and the unwinding of risky positions have reduced, to some extent, what I perceive to be the costs. In addition, we will now be buying bonds at a lower price, so the fiscal risks are lower. If we improve the ability to control short-term interest rates through the repo facility, the exit risks are lower. My overall sense is that the risks to the balance sheet have declined somewhat, which is a consideration.

The other consideration is one that Governor Powell raised, which is regret minimization. Whether we think of it this way or not, if we announce tomorrow that we are reducing asset purchases, that will be read everywhere as the first step in a tightening measure. If we were to taper tomorrow, and the data got worse, then we would not really be much better off because we would have to delay further reductions until we saw more indications of a better outlook. So there is not that much gain in that case from having moved. Then you are in a situation where you have essentially communicated that you are tightening policy exactly at the time when conditions subsequently get worse. So avoiding regret in a situation of high uncertainty, I think, suggests that we should be patient.

Why is this uncertainty higher now than normal? I would mention two factors. One is just the nature of the recent data, which have been quite mixed, and in particular the fact that we do not really have a good sense yet of what the impact of the higher interest rates is going to be. And the second factor worth mentioning is one that a number of people have noted, which is fiscal developments in the next month or so. So, again, there is a risk here that we would act and

then we would find ourselves very unhappy that we had acted in advance of all of these bad developments.

Now, there is yet a third approach, which is to strengthen the forward guidance, and I personally find that pretty appealing. There are a number of things we could do. We could add an inflation floor to the forward guidance that says we won't raise rates if inflation doesn't meet some condition. We can provide more guidance about what happens after unemployment hits 6½ percent. I want to throw my support behind what Governor Yellen and Governor Tarullo and others were talking about, in terms of the importance of communicating in some way why the policy rate seems likely to stay low for a very long time, inconsistent with standard Taylor rule estimates. So there are a number of things that we can do in terms of guidance.

At some point, I think that would be helpful and could perhaps substitute for some of the asset purchases, both in terms of signaling and in terms of actual direct effects on financial conditions. We could even consider—and let me just say this very definitively—we could even consider more aggressive or creative measures when we came to that point. For example, one way to very strongly underscore rate guidance would be to actually peg rates over a period of time, which we could do by buying and selling securities longer than overnight. So there are a number of things we could do. One issue, though, is that given where we are in terms of the uncertainties about the leadership transition, about membership of the FOMC, and those things, I think that this meeting is probably the worst possible meeting to rely heavily on the long-term credibility of the Committee. As we move forward in time, my sense is that we will have more opportunity to use various kinds of communication and commitment to either substitute or complement asset purchases.

So, in summary, I think there are arguments on both sides of this. But, broadly speaking, whatever we do we need to think not only about the winding down of this program, which we all want to do within a reasonable period of time, but also about what is the best thing, more broadly, in terms of achieving the objectives that the Congress has set for us. And that will be an interesting debate that we have tomorrow. As usual, in our conversation tomorrow, I hope people will talk not only about tomorrow's decision but also try to give some input and guidance as to how we should think about this going forward. Monetary policy is a dynamic process. It is not a meeting-by-meeting process. So I think it would be, again, helpful for everybody to try to think about the next few meetings as well as tomorrow's action.

Before we end today, let me ask Steve Meyer to give us a brief introduction to the alternatives.

MR. MEYER.⁷ Thank you, Mr. Chairman. I will be referring to the handout labeled "Material for FOMC Briefing on Monetary Policy Alternatives."

The Chairman just nicely summarized the key questions that the outside world has been asking about this meeting, and Governor Powell did a very nice job of summarizing the state of play in the SEP and your sense of the outlook. So I'm going to skip ahead to the middle of the page, except to note that market participants are quite likely to interpret your current SEP projections as indicating, as Governor Powell suggested, that Committee participants still see the economy as being on basically the same track as the baseline scenario that the Chairman laid out in recent months. So that will lead them naturally to the question, will the FOMC cut the pace of purchases?

As indicated by the middle panel in the center row, surveys of market participants indicate that nearly 75 percent of respondents, averaging across these surveys, think you are most likely to reduce the pace of purchases at this meeting, and about 20 percent think you are more likely to wait until October or December. However, only one of these surveys—the Desk's Survey of Primary Dealers—gives us any information about the probabilities respondents attach to a cut in the pace of purchases at this meeting. As shown in the middle right panel, 8 of the 21 dealers assigned a probability of 70 percent or more, but 8 others saw the likelihood of a cut at this meeting as only modestly greater than 50 percent, while 5 assigned much lower probabilities. Put another way, about half of the dealers who think you are

⁷ The materials used by Mr. Meyer are appended to this transcript (appendix 7).

more likely to cut the pace of purchases this month than not are far from sure. So no matter what you do, someone will be surprised.

Turning to interest-rate policy, almost all of you indicated that you continue to see funds rate liftoff as likely to be appropriate in 2015, as shown in the bottom left figure. The dealers who responded to the New York survey continue to share the view that liftoff is most likely in 2015, but other market participants may not, as some of you discussed. Perhaps more interesting, and as raised by Governor Yellen's discussion, though most of you see the unemployment rate and inflation as close to your estimates of their longer-run normal levels by late 2016, almost all of you see the federal funds rate remaining below its longer-run level at that time. Some recent market commentary indicates that investors may be skeptical that the Committee would keep the funds rate below 4 percent if the economy is, in fact, close to full employment with inflation near 2 percent by the end of 2016, suggesting that they will be seeking to understand your rationale for that projection.

If you are concerned that market participants are misreading your interest rate reaction function, and in particular, if you are concerned that they anticipate a more rapid increase in the federal funds rate than you think likely, you may be interested in altering your forward rate guidance. The bottom right panel suggests four possibilities for such changes; I'll say a bit more about them a little later.

Turning to the alternatives, and first to alternative B, on pages 6 and 7, the first paragraph indicates that economic activity has been expanding at a "moderate" pace. It also notes that some indicators of labor market conditions have shown "improvement"—or "further improvement" if you prefer—in recent months, but that the unemployment rate remains elevated. The paragraph also notes that mortgage rates have risen further and that fiscal policy is restraining growth. It concludes by saying that inflation has been running below the Committee's 2 percent objective, "apart from fluctuations due to changes in energy prices." So overall, this is a reading that seems consistent with your earlier projections, but nuanced in terms of mixed data. The second paragraph of alternative B contains one significant change from the July statement: it cites the tightening of financial conditions in recent months as a potential risk to the pace of improvement in the economy and labor market.

The third paragraph begins by noting that, in light of the restraining effects of fiscal policy, the improvements in economic activity and in the labor market since the asset purchase program began suggest growing underlying strength in the broader economy. This is a point that the Chairman made. It then states that the Committee decided to wait for more evidence that progress will be sustained before adjusting asset purchases. The decision to wait could reflect, at least in part, the concern that tighter financial conditions might slow the pace of improvement in the economy and labor market.

The blue text in the fourth paragraph reflects changes from the version distributed to the Committee on Sunday night. This paragraph now emphasizes that, in judging

when to moderate the pace of asset purchases, the Committee will be looking to see whether incoming information supports the expectation of ongoing improvement in labor market conditions and inflation moving back toward 2 percent. The reference to coming meetings, should you choose to include it, is meant to signal that a reduction in the pace of purchases this year is still on the table, but that the decision will depend on the incoming data. The paragraph concludes by stating that asset purchases are not on a preset course and will depend on the economic outlook as well as your assessments of the likely efficacy and costs of continued purchases.

The fifth paragraph, as I noted, offers the option of adding forward guidance indicating that the Committee expects that the federal funds rate will remain below its long-run equilibrium value even after the economy reaches maximum employment and inflation returns to 2 percent, for the reasons that Governor Yellen laid out. Such guidance could help explain to the outside world the persistently low level of the federal funds rate in your economic projections.

As I indicated earlier, market expectations for this meeting appear fairly diffuse, making it difficult to gauge the likely reaction to various outcomes. If market participants read a statement like that for alternative B as indicating that the Committee is close to a decision to reduce the pace of purchases and sees itself as most likely still on the path laid out in June, then the adjustment in asset prices and exchange rates might well be muted. But if market participants read the statement as signaling that the Committee is no longer on that path, then the adjustment in yields and prices would be sharper, with yields falling, equity prices rising, and the dollar likely depreciating.

If you judge that the improvement in the economy and in the outlook since last September warrants an immediate reduction in the pace of asset purchases, and if you have become more confident that progress will continue, you might well prefer alternative C, on pages 8 and 9. The first paragraph of alternative C takes a more upbeat view of current economic conditions, while the second paragraph says the Committee has become more confident that the labor market will continue to improve and that inflation will move back toward its longer-run goal. The third paragraph announces a modest reduction of \$5 billion each in the pace of Treasury and agency MBS purchases. Alternative C offers two versions of paragraph 4: The first says that continued progress toward the Committee's employment and inflation goals likely would result in additional measured reductions in the pace of asset purchases; the second adds language noting the Committee's expectation that the unemployment rate will be around 7 percent when purchases are completed. The fifth paragraph simply repeats the forward guidance from July.

A modest cut in the pace of purchases seems close to most market participants' view of the most likely outcome from this FOMC meeting. But the strongly positive characterization of current conditions and the outlook in alternative C would come as something of a surprise, potentially prompting some rise in yields. Moreover, a sizable fraction of market participants appears to see a cut in the pace of purchases at

this meeting as a close call; the resolution of uncertainty could prompt portfolio rebalancing with an attendant adjustment in asset prices.

Turning finally to alternative A, on pages 4 and 5, the first two paragraphs are essentially the same as in alternative B, except that alternative A notes that job gains appear to have slowed in recent months. The third paragraph states that the Committee has not yet seen sufficient improvement in the outlook for the labor market or sufficient progress toward its economic objectives to warrant a reduction in the pace of purchases. The fourth paragraph holds open the prospect for a future reduction in the pace of purchases but gives no indication of when such a reduction might occur. The fifth paragraph then offers a number of potential changes to the forward guidance, which we've collected mostly for your convenience. Those include a reduction in the unemployment rate threshold to 6 percent, a sentence indicating that the Committee "anticipates that it would not raise its target for the federal funds rate if inflation between one and two years ahead were projected to be below 1¾ percent"—something that we might think of loosely as an inflation floor—and new language that provides more information about the factors the Committee will consider in making monetary policy decisions after the unemployment threshold is crossed. I should add I don't envision that you would adopt all of those, but you might want to debate whether any of them are desirable. The paragraph concludes with the additional guidance about the funds rate in 2016 that also appears, in brackets, at the end of alternative B.

You might prefer alternative A if you judge that it would be inappropriate to reduce the pace of asset purchases while actual inflation is below 2 percent and projected inflation also remains below 2 percent, or if you see the unemployment rate as likely to be well above its longer-run normal rate for another couple of years. In either case, you may think it appropriate to modify the Committee's rate guidance as well as to continue the current pace of purchases.

A decision to adopt a statement along the lines of alternative A, with or without changes in the forward guidance, would surprise most market participants. They probably would conclude that the Committee no longer anticipates a reduction in the pace of purchases by the end of the year, and thus would revise up their expectations of the total size of the Committee's asset purchases. Interest rates likely would decline, though expected inflation might well rise, equity prices probably would increase, and the dollar might depreciate. But equity prices could fall if market participants read the statement of alternative A as indicating that the Committee has become more pessimistic about the outlook.

That concludes my remarks. I'd be happy to answer questions now, or tomorrow morning if you'd rather get to the next event.

CHAIRMAN BERNANKE. Are there questions? President Fisher, I saw you first.

MR. FISHER. You raised the possibility, Mr. Chairman—and I think you know that this is my bias—I'm curious to hear from the staff or the Desk, what would be, in your opinion, the difference in reaction if we moved only on Treasuries and not on mortgage-backed securities?

MR. POTTER. So there are two aspects. The first one is the signaling of making the reduction, and you've made one. The second one is to move just on Treasuries would be a strong indication that you wanted to support housing more, and you thought that the MBS purchases were the best way to do that. But the signal is—

MR. FISHER. I was going to ask about the allocation preference, so that's the way you would parse it.

MR. POTTER. I think the market has some views that that might happen, but they don't have a really strong view in that direction.

MR. FISHER. Is that option on the table, Mr. Chairman?

CHAIRMAN BERNANKE. As I said in my remarks, my default is what I heard a meeting or two ago, which was a general sense that, for simplicity's sake, we ought to reduce asset purchases more or less proportionally. But I am totally sympathetic to that possible approach, and I invite people tomorrow to comment on that.

MR. FISHER. Thank you.

CHAIRMAN BERNANKE. President Kocherlakota.

MR. KOCHERLAKOTA. Yes, I had a couple of quick questions. First, this time the staff didn't prepare projections of the evolution of unemployment and inflation under the various alternatives. Which of these three alternatives would return unemployment and inflation to their goals most rapidly?

MR. LAUBACH. President Kocherlakota, we did prepare such simulations, but they showed such small differences that we chose not to include them in the briefing charts. But in alternative A, the inflation floor does provide some additional accommodation, according to the analysis that I think was distributed to the Committee ahead of the previous meeting.

MR. KOCHERLAKOTA. I have a second quick question, which is on paragraph 4 of alternative B. This is just a minor wording thing. We say “until the outlook for the labor market has improved substantially in a context of price stability.” I think we should say something about since what period of time. If we just read it like this, it looks like “until the outlook for the labor market has improved substantially” from this point in time, as opposed to what we mean, I think, which is since last September when the program was initiated.

MR. POTTER. This has been present in the statement for a while. People are not confused. I’m just saying that changing it would perhaps be more confusing, unless you have a lengthy explanation.

MR. KOCHERLAKOTA. I have a lengthy explanation, which is that I prefer to be correct in what I say. [Laughter]

CHAIRMAN BERNANKE. We’ve had language on cumulative progress before, or extended progress. Right?

MR. POTTER. I don’t think this part of the statement has been touched since September. And it had the logical problem that President Lacker pointed out in September last year, which no one else has taken on.

CHAIRMAN BERNANKE. I do think that people will understand it. Thank you for pointing that out. President Bullard.

MR. BULLARD. Mr. Chairman, you know I have been concerned about whether October would be a live meeting if we do nothing at this meeting. What is your view on this?

CHAIRMAN BERNANKE. I'm glad you raised that. Actually, Michelle and I have discussed this a couple of times. I think it is very likely that I will get the question, "Is October still on the table?" In which case I will answer, "All meetings are on the table." And if we take any action, we will arrange an on-the-record phone press conference that will also be broadcast on the Internet, so that we will in fact be able, with short notice, to create a press conference–type event.

MR. EVANS. Take what type of action? I mean, you might get yourself into—

CHAIRMAN BERNANKE. What would I say? First, I wouldn't say "October." I would say, "At any meeting, should there be a need for further explanation," or something like that, "we would have the ability to arrange a phone press conference on the record."

MR. EVANS. That's fine. Yes.

MR. BULLARD. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Any other questions? [No response] Seeing none, reception and dinner at the usual place. No business will be conducted. Tomorrow we start at 8:30, please note. Thank you.

[Meeting recessed]

September 18 Session

CHAIRMAN BERNANKE. Good morning, everybody. We are ready for our policy go-round, and I have President Rosengren first.

MR. ROSENGREN. Thank you, Mr. Chairman. Since people's comments went long yesterday, I want to provide the opportunity that, when I no longer need this cane, I could bequeath it to the Chair. I do find that the curved part, which I don't get a lot of use out of, might be more useful to current and future Chairs. [Laughter]

I support alternative B. I'd like to have tied the purchase program to economic outcomes, but there does not seem to be much support on the Committee for moving in that direction, in part because the unemployment rate at this time may not provide a broad enough reflection of labor market conditions. If our purchase program is to be data driven, it needs to reference a broader set of data so that we can have reasonable confidence that the economy will return to 2 percent inflation and full employment in a two- to three-year time frame. Such a path would require more economic growth and more rapid expansion in employment than we are currently experiencing.

Over the past several months, financial conditions have become much tighter than I would have liked, given the current pace of the recovery. I believe that we should avoid any action that might further raise long-term rates, as that risks pushing the achievement of either element of our mandate too far into the future for my comfort. Further tightening of long-term rates risks further slowing the only strong sectors in the economy, those interest-sensitive sectors that have benefited from our policies. Even though the unemployment rate is much lower than a year ago, much of that decline came from potential workers exiting the labor force and thus does not provide as strong a signal of labor market improvement as I would like to see.

I see little cost to waiting until we experience stronger growth in employment and real GDP before beginning what is likely to be a bumpy and unpredictable reduction in the purchase program. While the direction of rates when we choose to reduce purchases is likely to be up, I have no confidence in my ability to predict the magnitude of the market's reaction. I fear that some see tapering as a nonevent that is already priced into markets. But that view risks underestimating the potential market reaction, which in recent months has magnified small changes in tone into an expectation of a much more rapid tightening than we hope to suggest. When we do choose to reduce purchases, we should be careful to use clear and forthright forward guidance or any other signal we can employ that avoids the perception that we are sharply tightening policy. Such communication will be critical to minimizing the risk that markets will overreact to our reductions in purchases.

In terms of the distribution of our purchases, I prefer that, when it becomes appropriate, we reduce purchases more from Treasuries than from MBS. And in terms of the language, while I fully support the intent of the last sentence in paragraph 5, I do think that, as the discussion yesterday highlighted, it's a pretty complicated concept. It might best be left to the minutes, the press conference, and future speeches to fully explain what the sense of that sentence is before we actually put it in the statement. Again, while I fully support the intent of the sentence, I do worry about just putting it out there. It may be difficult for people to interpret without a little more guidance. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Williams.

MR. WILLIAMS. Thank you, Mr. Chairman. As you said yesterday, there are good arguments for both alternative B and the tapering envisioned in alternative C. I view the choice as a close call. I do see several advantages to a very modest step-down in the pace of asset

purchases, as in alternative C, at this time. First, it would appropriately acknowledge the sizable improvement in labor markets over the past year. To my mind, there's no question that we have made considerable progress toward this goal since the program was started. Second, we'd demonstrate concretely that we are following through on the plan that the Chairman laid out in his June press conference, and that the Committee endorsed in July. Overall, the recovery is proceeding more or less as anticipated back in June, which argues for execution on the plan laid out then. Third, with a small initial move, we would still be adding considerable monetary stimulus going forward, which would position us well in case future improvements in the labor market fall short of our expectations.

Now, I see the main argument for alternative B as wanting to collect further information and confidence in the ongoing strength of the expansion. And of course at one level, it's hard to argue against gaining information and certainty. However, inaction carries with it considerable risks, especially regarding our communications. Here I would have a slightly different perspective on what it means in terms of what our baseline should be. The June plan, including the knockouts and the whole plan as described, should really be our baseline for thinking about what inaction versus action is.

Uncertainty about future policy could increase if we were perceived as backtracking on the plan laid out in June for reasons that are not at all evident. And this confusion could undermine the public's understanding of our commitment to our forward guidance more generally, including forward guidance with the funds rate. Indeed, in my mind, clear confirmation of our plan is more important than whether we decide to reduce purchases at this meeting or later this year. The point I want to make here is, the strategy is what matters, not the

tactical decisions about which meeting we make what move and exactly how much we adjust the purchases.

Even with our best communication efforts, I am worried that delaying action may well confuse markets, add to uncertainty and risk premiums, and, in the end, could be counterproductive with respect to the desire to bring about more-favorable financial conditions. Therefore, if the Committee chooses to go with alternative B, I think it's critically important that we make clear that this is not a repudiation of the plan that we have articulated over the past few months. I view the new language in paragraph 3 of alternative B that was introduced over the weekend as helpful in this regard. I'm thinking of the first sentence of paragraph 3. I would also argue that we put in the bracketed phrase in paragraph 4. I actually like "later this year," but "at its coming meetings" is good, too. So I strongly urge that we have that bracketed language in paragraph 4. Moreover, we must not inadvertently signal a newfound pessimism about the outlook that's supported neither by the data nor by the forecast. Such a public misperception could be damaging to confidence.

Although I do view the policy action in alternative C as being a preferred course, I can support alternative B. Again, though, I think it's critically important that the language in the statement and our communications around this indicate that we are continuing on the plan laid out in June.

Now, I am concerned about the apparent tightening in expectations regarding the funds rate that we've seen over the past few months. In addition, it's clear that uncertainty about rates over the next few years has climbed considerably, which has pushed up term premiums more generally. In my view, the proper treatment for this problem, which I do view as a problem, is stronger forward guidance around our funds rate, not more asset purchases. Therefore, it would

be very useful, sooner rather than later, to strengthen our forward guidance and push against the perception that tapering of asset purchases, now or in the future, implies a more imminent liftoff of the funds rate. To that end, it would help to clarify what we will do once the unemployment rate reaches 6½ percent. Now, I favor a small variant of the language in paragraph 5 of alternative A—specifically, in the language that says “Once the unemployment rate reaches 6 percent . . . ,” I would replace “6 percent” with “6½ percent”: “Once the unemployment rate reaches 6½ percent, and assuming inflation is well contained at that time, the Committee will consider a broad set of indicators in determining how long to maintain a highly accommodative stance of monetary policy. Relevant factors include additional measures of labor market conditions such as the level and growth of employment”—which, I think, captures this issue around employment-to-population and labor force participation—“indicators of inflation pressures and inflation expectations, and readings on financial developments.” The important part of that language is that it does create some space between the 6½ percent threshold and the actual liftoff of the funds rate.

Finally, in terms of this issue that President Rosengren mentioned and Governor Yellen highlighted yesterday—about, once we do lift off, the next phase, what the pace of liftoff will be—I agree completely with President Rosengren. I don’t think one sentence in the statement is the right way to convey that information. Governor Yellen is absolutely right that we need to convey that information, and we need to explain our thinking here. The SEP is going to be out there. We have, I think, a good story for why we expect the funds rate to rise slowly. But again, I agree with President Rosengren that that’s best done through the minutes, through the Chairman’s press conference, and through our more general communications. Thank you.

CHAIRMAN BERNANKE. Thank you. President Plosser.

PARTICIPANTS. There's a two-hander.

CHAIRMAN BERNANKE. Oh, I'm sorry. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. A quick question for President Williams. In your remarks, you favored the language in paragraph 5 of alternative A, but proposed replacing "6" with "6½." What was your thinking on that?

MR. WILLIAMS. Well, we currently have "6½" in the statement. My view is, we won't raise the funds rate until the unemployment rate is around 6 percent or something like that. What I'm trying to do is to explain that even when it gets to 6½, what our thinking will be. We will no longer have a threshold out there, so the thinking is, we'll be looking at unemployment, employment—

MR. KOCHERLAKOTA. That's helpful. Thanks.

CHAIRMAN BERNANKE. Okay. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. Today I recommend that we proceed with alternative C. I believe it is the wisest and most prudent course of action at this time. There are costs and benefits with each strategy, as there always are, but my assessment of the costs and benefits, and the potential risk, associated with not reducing purchases at this meeting is that the costs exceed the benefits.

I want to align myself with many of the comments that President Williams just offered in supporting this. The small taper that's being contemplated in alternative C is trivial when it comes to dollars and cents. It's just not important. It will have no direct impact on the growth rate or improvement in the economy. Clearly, it's all about signaling. It's all about what the markets interpret this move to be, and what they interpret our actions to be or not to be. I think we can agree up front that it's just not consequential from a quantity standpoint. So it's about

expectations. In the first place, markets are expecting us to taper, broadly speaking. That doesn't mean there won't be any price effects of our choosing to taper—or “taper lite,” whatever you want to call it. There probably will be some effects, but they're likely to be small and manageable. Should we not taper, there will be some surprises, and the market reaction could be, potentially, quite unpredictable. I'll come back to that in a minute.

I think we prepared the markets for this. We've talked about a plan. We have not pushed back on the market's growing assessment that, in fact, this meeting is likely to begin a process. We haven't pushed back on that, and so I think that not following through with the signaling that the Chairman gave in June, and that we continued with during the intermeeting period, could be a very costly mistake for us. What I want to do, in thinking about signaling, is to think about, as the Chairman suggested yesterday, what implication this decision today has for the future decisions that we make. That's the way we have to think about it. And I worry that if we don't follow through with how we've prepared markets, it could have some very unexpected and dangerous effects on constraints we face in the future.

Tapering today is consistent with our performance. If, in fact, we do choose to taper, we should be very clear that, as the Chairman and others have said, this is not a preset course. This can change and be adjusted, as appropriate, to economic conditions. I think that needs to be very clear.

I do worry, though, that by not tapering today, as President Williams said, we will send a signal of a weak economy. And we run the risk of undermining confidence, of undermining expectations about the future path of the economy, when in fact, our expectations about the future path of the economy really haven't changed that much. By not acting today, we run the risk of creating substantial confusion in the marketplace over what they think our reaction

function might be for asset purchases. We've laid out a plan. Should we not follow through with that, they're going to say, "If not now, when? And under what conditions?" There's nothing that we have said that has helped clarify how we're changing our reaction function that leads to this unexpected decision. I think that's going to lead to policy uncertainty. It will lead to volatility in markets that we don't want. We don't want to enhance uncertainty, and yet I think we will be doing just that.

It potentially undermines our credibility. I think that it raises a question in the marketplace about the fact that we've talked about a 7 percent unemployment rate when this asset purchase program might end. Now, we have not committed to that, as I understand it. And our 6½ percent is a threshold. But I think that not tapering today will signal to the markets that (a) we think the economy is a lot weaker than we thought, and (b) we will not end this program by the time we get to 7 percent, because, frankly, the unemployment rate is 7.3 percent now. We could easily be at 7 percent by the first quarter, which is actually my forecast. And we will not be able to end it that quickly.

I don't think we'll be able to act the rest of this fall. The odds of our taking an action at either the October or December meeting are actually pretty low. I think we'll be in the midst of the fiscal ceiling debate. We will be, potentially, in an environment where there are hearings on the nomination of a new Chairperson for this Committee. Regardless of who that nominee is, the Congress is going to debate monetary policy, and it's going to be quite fractious, I suspect, during those hearings. We are likely to be a little bit reluctant to enter the fray with policy decisions that are viewed as important in the midst of those debates. So I don't think the likelihood of our acting over the rest of this year is very high. That means we are unlikely to be able to act until starting next year, and then we won't start tapering, in my view, until we're close

to 7 percent. Again, we'll be sending confusing signals, and the public is not going to know what to think about it.

We've laid out a threshold of 6½ percent as when we would consider raising the funds rate. Taking no action today basically sends the signal that that's off the table—we will not act at 6½—because, in effect, this says we won't be done tapering by the time we get to 6½. This decision to not taper today is essentially a backdoor decision to change the threshold of 6½ percent. I think that's the way the market will interpret it, and I am very uncomfortable with using a nontaper decision today to signal something about our forward guidance in the process. And that will be the effect, if not the intent, of what we're doing. If we want to change the threshold, then we need to debate that issue and talk about it. I'm perfectly open to having that debate. But I don't like to do that through a nonaction today that, de facto, resets those expectations in the marketplace. I'm worried that that's what in fact might happen.

I agree with President Williams. My thought about future guidance is that the important thing we need to talk about is not changing the threshold, but talking about how we will act after that threshold is reached. And we need to be more explicit about that. Many of us argued that position back when we set up the threshold. That's the direction we need to be going in. But I think that by not acting today, we are actually making a decision on that de facto, and I'm uncomfortable with that decision.

So I think that not acting today on a modest taper sends clear signals that we're not on a preset course and that this could be stretched out longer. By not tapering, we run the risk of constraining ourselves in the future by putting ourselves in a box about what our choices might be and how they might play out. I'm uncomfortable with that. I think we need to go with the

plan that the Chairman laid out and stick to it, send the signal that we're sticking to it, and proceed accordingly. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Fisher.

MR. FISHER. Mr. Chairman, I hope the Committee listened very carefully to President Plosser and President Williams. I think those were extremely thoughtful interventions. I don't want to belittle my "becaned" friend, Eric Rosengren. He brings new meaning to the economics of Keynes. Sorry, I couldn't resist that one—I thought of that yesterday. [Laughter]

Just a comment on yesterday. I found it very interesting. In our previous meetings, we talked about market expectations and the dealer surveys. And then this time, we had all of these little nuances of interpretation—sort of, "Well, I'm not sure really what they mean," and "48 percent," and so on. We seem to be finding excuses not to move, and I'm going to come around to that in just a second. But I find it interesting that we are parsing the data a little bit differently than we have before. Now, far be it from me, Mr. Chairman, as you've reminded me many times. I've always said, "Let's do what's right for the real economy and what's right for the Federal Reserve. Let's not be driven by market expectations." So even though markets expect us to move and are giving us space to do so, expectations for tapering are way high and uniform by every survey I've seen, I'm going to set that aside, and I'm not going to mention it.

I was taught a long time ago that effective committees should resemble the Balkans in discussion and Switzerland afterward. So I'm going to try to Balkanize the discussion a little bit further. First, everybody knows what my bias is here. I don't believe that QE3 is as effective in achieving what we want to achieve, particularly the Treasury part; and I do view it, personally, as a subsidy. As I've said many times publicly and privately, it's a subsidy for the rich and the quick and for the big banks, and it's not a subsidy that helps the working men and women of our

country. Now, subsidies are very hard to undo—look at ethanol, for example. They create massive distortions. They create negative externalities. And, given their enormous size, in our case, and the externalities, they become embedded in the fabric of what policymakers consider normal economic thought—just as in the ethanol and farm bill subsidies. I think we have to be very careful not to fall into that trap.

In June, we announced a framework and set the criteria for adjusting the pace of asset purchases. The result was a sharp and fairly substantial increase in long-term interest rates. It's this rise in rates that people apparently have in mind around this table when they refer to "a tightening of financial conditions." And it's this rise in rates that seems to be the main argument for deferring action at this meeting, from what I listened to yesterday and what I expect to hear today. Is the rise in rates a good argument for deferring action? Well, if rates went up because people don't properly understand the framework, then it seems to me that the proper response is to improve our communications. We tried that, and it made some difference, but not much.

An alternative interpretation is that people do understand the framework, but that we around this table failed to fully appreciate its implications. Now some of us are having second thoughts. Perhaps the criteria announced in June were too easily satisfied. Perhaps, in retrospect, we ought to have imposed a higher standard of proof. But please, let's not point a finger at "tighter financial conditions," as if they were some exogenous influence on the economy forcing a change in our plans.

A third alternative is a variation of the first that I just mentioned: There's nothing wrong with the framework laid out in June, but people don't believe we mean it. They interpret the announcement as a signal that the Committee is hell-bent on ending the asset purchase program regardless of the incoming data. In this case, the best thing we can do is to demonstrate over

time that we're sticking to the program that we laid out, as President Plosser mentioned, adjusting the pace of asset purchases up or down in response to incoming data. To my mind, that means modestly trimming the pace of purchases at this meeting while being prepared to hold steady or even reverse course if the downside economic risks that we are worried about materialize, and being prepared to follow up with further trimming if we don't see those downside risks materialize. And one parenthetical note: This morning the dollar was trading exactly where it has been over the past several months against our major trading partners. So the outlook and the balance of risks have simply not changed by a significant amount relative to June or July to justify doing nothing at this meeting. Doing nothing would increase uncertainty about the future conduct of policy. It would call the credibility of our communications into question, as was mentioned earlier—and, I believe, Mr. Chairman, your personal credibility as well.

By our January meeting, for all we know, the unemployment rate may have reached or flirted with the 7 percent level, as mentioned by President Plosser, which would likely signal completion of the asset purchase program. That's how it's understood in the marketplace, despite the nuances we like to infer.

Now, it's principally in the housing market that tighter financial conditions have, indeed, obtained. They're manifest. To minimize the impact on the real economy, as I mentioned yesterday, I am not only open to but would also advocate that asset purchase trimming be limited to Treasuries, even though I understand President Lacker's argument. I've been sympathetic to that argument. It is an asset allocation decision. I did vote for the MBS program in the beginning because I felt it was necessary, and I believe it worked. So I would limit the tapering to Treasuries. President Rosengren worked that in at the very end of his Keynesian analysis. And indeed, by signaling that the Committee is sensitive to the potential for an MBS taper to

slow the housing market recovery, I think, given my experience, for what it's worth, that a straight \$10 billion reduction in the pace of Treasury purchases, unaccompanied by a reduction in the pace of MBS purchases, might actually be stimulative.

As you know, I'm a supporter of enhanced forward guidance—I talked about it yesterday—especially guidance regarding the post-liftoff conduct of policy. But I agree with you, Mr. Chairman, that any significant push in that direction is probably best deferred until sometime next year, given the changes that are likely to occur in this Committee. I'm not sure we'd be terribly credible at this time. But I want to push that later under the next Chairperson and under our new leadership with the new composition of the Committee.

Here's the bottom line. We say that we're data driven. The data have not worsened. We have a couple of tiny little data points—a terrible way to make a decision. But the trend, as President Pianaalto said yesterday and others have mentioned, is definitely in the right direction. We're moving in the direction of what we set up for ourselves as markers.

I think we perform a disservice to ourselves and the great institution we serve when we flinch from acknowledging the facts, when we look for excuses not to act. Now, I realize that we're haunted by the ghost of 1937 and 1938. I don't consider it tightening if we ease off on the accommodation by moving \$10 billion in Treasuries off the purchase list. If you look at what we're doing together with the reinvestments, we're talking about reducing by 10 percent the amount of purchases, and we're still adding accommodation. I think that can be clearly explained in the press conference.

As to the future, I would think very long and hard, Mr. Chairman—and I'd ask this Committee to think very long and hard—about whether we will really be able, as President Plosser mentioned, to muster the courage to move in the face of the fiscal cliff and all of the

other hoopla that's going to go on on Capitol Hill in October. We have a recalcitrant Congress. We have a hogtied President. We saw this morning that it's getting worse, not better, in the media. And I can just hear at this Committee one more excuse not to move. I think the time is now. Your credibility would be enhanced, not reduced. I believe we should do it in Treasuries only and not in MBS. And I hope that you will find some way, Mr. Chairman, in your wisdom, to pull Switzerland out of the Balkans that you have just heard. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. I'm going to hold you to that Switzerland outside rule, okay? [Laughter] President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. Although it's not an easy decision, I'm going to support alternative B. As I stated in my economy-round statement, I think the current data present an ambiguous picture—in fact, too ambiguous a picture. The consensus outlook as represented by the SEP central tendency may be overly optimistic, and the most plausible risks to the outlook are to the downside. That said, I believe that the Committee has set up the decision as between starting to taper now or sustaining purchases a while longer and starting to taper later, but likely very soon. This is a tight set of decision options. I do not believe the two other options are realistically on the table—that is, to sustain purchases indefinitely, the open-ended posture that we started with, or to increase purchases. There may be arguments for these policy stances, but the markets and public have not been prepared for the serious consideration by the Committee of those options. Indeed, the three policy options on the table today, presented at this meeting, reflect this reality that we have a tight set of options, in my view.

So if one accepts that the array of choices today consists, realistically, of tapering now or soon, then I think there are some relevant decision criteria, and I'll frame those decision criteria as four questions. First, based on data evidence, is the economy strong enough to move ahead in

a state of declining LSAP stimulus and, relatively shortly, with LSAP stimulus eliminated? Call this the current economic strength criterion. Second, how confident is the Committee in the outlook as presented in the central tendency of the SEP? Call that a confidence criterion, meaning our confidence in the outlook. Third, what is to be gained from a delay to the October or December meeting in terms of plausibly improved data, accumulated short-term direct effects of purchases on the economy, and greater certainty? I see this as a short-term efficacy criterion. And, fourth, what does it take to preserve and protect the Committee's credibility and act consistently with recent communications? For me, that's a credibility criterion.

Here's how I size up the situation relative to these questions. There are reasons to have some reservations about the strength of the economy as evidenced by recent data. If the outlook plays out near what is expected, that's fine, but there is more chance of underperformance than outperformance. At the same time, little will be gained by waiting until October. The economy will absorb a modest start of tapering in the amount of \$10 billion. While I see little difference between now and October, by early December, we may have information that gives more confidence in the 2014 outlook, including indications that headwinds are, in fact, dissipating.

Credibility should be in the front of our minds at this point. Deviation from the data-dependent basis for a start to reduction of purchases may undermine credibility and actually do harm to the economy by increasing financial volatility and undermining public confidence. I do think it's difficult to accurately predict market and public reaction to either decision, and, in circumstances like that, my instinct is to stay true to the data-driven principle we previously communicated—in effect, walk our talk.

So in my judgment, alternative B is the most credible fit for the current reality. Still, I don't think the situation I've just laid out in terms of my four considerations yields a clear-cut

answer. I actually could go either way—that is, B or C—but the weight of my views tilts to alternative B.

I see the merits of including the optional language in alternative B that refers to “at its coming meetings” as the likely time at which the moderation of the pace of purchases begins. In fact, I think failure to include this language may bring on undesired interpretations of what, in the minds of many in the market, is now thought of as a delay, but may turn into thinking that the Committee is reversing course. So I support the language “at its coming meetings.”

As regards forward rate guidance, since, in my view, a decision to delay until October or December should be explained as precautionary and, obviously, temporary, I would prefer to hold off on any adjustment to or elaboration of the existing forward rate guidance. I think such a move would be more appropriate at the time of commencing tapering and in circumstances of some continuing ambiguity around the state of the economy.

Like Presidents Rosengren and Williams, I would prefer not to include the bracketed language at the end of paragraph 5. I’m concerned that it might confuse matters by introducing a new moving part in an already complicated communication situation.

In the Chairman’s press conference today, I think a decision to begin purchase reductions later this fall should be positioned as very likely the default course of action in the absence of very strong evidence that the economy is off track—that is, materially deviating from the outlook that we presented in the central tendency of the SEP. If conditions develop in which the economy is materially off track, then we will have to reevaluate the appropriate stance of policy and not confine ourselves to the tight set of decision options that we’re currently working under.

Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. I appreciate the arguments being made on all sides of this very close decision today. I'm going to support alternative B for today.

According to the SEP, total year-over-year PCE inflation for 2013 is projected to come in close to 1 percent, nearly 1 full percentage point below our expectations as of September 2012, the date of the launch of the current asset purchase program. I think that on the basis of our inflation projections, we can afford to be patient in assessing the future of our asset purchase program, possibly allowing it to continue for a somewhat longer period than otherwise would have been feasible. My expectation is that inflation will begin to pick up as the U.S. and global economies strengthen in coming quarters. However, I think we can wait until we see more-tangible signs that such a development is occurring before taking action to draw down the pace of purchases.

I have several comments on the policy options in front of us. Let's begin with alternative B, paragraph 4, the phrase "at its coming meetings." In my view, this phrase should be included. I associate myself with comments by President Williams and President Lockhart. I see this phrase as marginally helpful to the Committee should we decide that October is an opportune moment to reduce the pace of purchases by a small amount. I advise the Committee not to put all of the weight concerning future directional decisions for monetary policy on a single meeting, such as the December meeting, because macroeconomic events at that particular juncture may or may not be conducive to major policy action.

Also in alternative B, in paragraph 5, there's an optional phrase at the very end. I think that this phrase should be omitted and that we should simply let the Chairman discuss the 2016 SEP policy rate projections during the press conference. Governor Yellen made an important pitch for the interpretation of the 2016 SEP policy rate embedded in this sentence.

The key idea is that the reason rates are still low at the 2016 juncture is that unspecified persistent headwinds will still be abating at that point. First of all, while this is a good issue for the Committee to discuss, I do not think we have thought through all of the ramifications of including such a phrase in the statement, and, in this sense, I agree with Presidents Rosengren and Williams. In my own view, including this phrase would significantly increase the risk of sending an unwarranted pessimistic signal about the state of the U.S. economy in 2016, a situation about which we have very little knowledge. In particular, that 2016 economy may be interpreted as one with low real interest rates, low productivity growth, and slow growth of national income. Sending a pessimistic signal today would then feed back into macroeconomic decisionmaking today, depressing investment behavior, for example.

Much of the “lower for longer” policy discussion that has revolved around this table over the last several years has been based on work by Michael Woodford and his coauthors. The relatively low policy rate in 2016 projected in the SEP could be viewed as part of an optimal policy strategy consistent with Woodford’s work. If so, to the extent that markets have not already anticipated the Committee’s policy intentions for 2016, it would induce, according to the theory, more consumption and investment today. I think we should at least leave this possibility on the table, and therefore, for this reason, I think we should omit the last sentence of paragraph 5 in alternative B.

More broadly, the whole purpose of forward guidance might be called into question with the explanation suggested in the last sentence of paragraph 5. A provocative way to put this is, perhaps we should abandon all attempts at forward guidance if all we are saying is that future economic prospects are bleak.

In alternative C, paragraph 4, there are two options. The one labeled just “4” makes no reference to a 7 percent unemployment rate, and paragraph 4' includes a reference to the 7 percent unemployment rate. I have some comments on this, which would enshrine 7 percent as a threshold for the asset purchase program. This reference suggests that purchases will be zero at the time that the 7 percent level of unemployment is crossed. Given the recent behavior of unemployment, I see this as quite reckless for the Committee. Unemployment could easily cross 7 percent very soon, and we are currently, as a Committee, in no position to be at zero purchases that quickly. Accordingly, if we went with alternative C, I would suggest 4 over 4'.

Let me turn now to alternative A, giving equal time to all options here. In alternative A, paragraph 5, there is some language about how to introduce an inflation floor in the forward guidance. I've supported an inflation floor, so I wanted to comment on this. I do think that if we move in this direction, inflation thresholds should be symmetrical. The inflation floor, therefore, should be 1½ percent and should be viewed and worded in a symmetrical way to the 2½ percent threshold on inflation on the high side. However, I agree with the Chairman's assessment that this is an inopportune time to try to strengthen our forward guidance, given upcoming changes in Committee composition. But this is an issue that may be salient going forward, and so I wanted to make my preferences known—that I'd like this to be more symmetrical than what it is here.

Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. I just would raise for further consideration that we could look at projected inflation, one to two years ahead, or we could look at a current measure of inflation, underlying inflation—something like that. If you're looking at a projected level, I think it's a good question whether or not we should be putting our target in. Symmetry is

not the entire consideration here. I just raise the question. But I think the number to put in there is actually a very important question we need to think about.

MR. BULLARD. Yes. In the past, I've liked to not put the forecast in there, because any credible central bank should be saying that inflation is going to go back to target relatively soon. So I think that's a conundrum for both of our thresholds—on the high side, mostly.

CHAIRMAN BERNANKE. Thank you. President Evans.

MR. EVANS. Thank you, Mr. Chairman. I said in public commentary before this meeting that I was coming into this meeting with an open mind. That's true. However, having said that, I don't think anybody will be surprised that, ultimately, I do favor alternative B as written.

Maybe this is an unfair characterization, but let me say it anyway. It strikes me that most of the arguments for alternative C seem as though our June framework was to put us on a preset course for September, and that's not what I signed up for. Last June, I reluctantly agreed to our plan to announce that we expected to begin dialing back our asset purchase flow rate sometime later this year if the outlook improves. I had to remind myself, by looking at the SEPs, that the SEP outlook is lower today than it was in June. I think that would be a little bit troubling if we were to actually do something like alternative C. It's reasonable to have opened up all of these options and to talk about the conditions under which we would begin dialing back, but, in the past, I've preferred not to discuss exit prematurely, just because the communication on that is so difficult. But, nevertheless, that's what we said, and it was conditional on our optimistic projections being on track. That was a framework, and Chairman Bernanke clarified that at the NBER. When he mentioned that we're not on a preset course, that had a very positive effect in terms of clarifying what we intended.

I have worried that the value of our SEPs in this exercise is less than what we would hope for. As I said yesterday, I continue to think the exercise has many flaws. For instance, I had a much more aggressive monetary policy assumption in my June SEP, and that was an important fundamental for the improving outlook. Since then, long-term interest rates have gone up; Baa rates have gone up as well. And that provides a counterweight to our policy accommodation.

I have been reluctant to say that our monetary policy stance has been fully adequate, because we've had weak economic activity and we've had weak inflation, and I come down on the side that there's inadequate aggregate demand—the zero lower bound has hurt us in that regard. So it's not really quite optimal monetary policy that I can bring myself to put in the SEP.

Now, there are different viewpoints and different ways to interpret the data. I think Governor Stein put out an interesting alternative hypothesis. I got the sign wrong in my question yesterday, so let me clarify what I should have been pointing out. He was saying that we might be seeing growth lower while we still have employment stronger. So it was a low-productivity environment. What I was trying to get at was, there are other refutable implications for these hypotheses. Whenever we put these hypotheses out there, we want to examine what other implications they have, because that's where they're potentially refutable. I would have guessed that unit labor costs might go up in that environment. So short-run marginal costs could go up, pricing behavior outside of Phillips curves could lead to higher price adjustment, and so we might see uplift in inflation. That would be confirming evidence, I think, for that viewpoint, and it would suggest less scope for strongly accommodative monetary policy. So I'm interested to see more evidence on that, but there's a lot of uncertainty.

I said I was open minded. I thought that yesterday we had a good review of recent developments since our July meeting, and frankly, for me, there's just too much uncertainty,

given that activity and inflation are running below our objectives. I previously said that I'd like to see third-quarter GDP growth to assess whether growth is potentially strong enough to sustain further employment gains and improving labor force developments, as opposed to having the unemployment rate fall for the wrong reasons. I don't view this as backtracking on what I've said in the past, because it was conditional on the outlook being strong enough. And we can come down in different places on that, but for me, I think the outlook hasn't been strong enough. Why should we risk a regretful outcome on our credibility today by acting? Later this year includes October and December, and, if the expected improvement is eventually deemed evident, then we can act, as we'd said before.

I'm also worried about the linkage between our asset purchase announcements and our forward guidance. Forward guidance is our primary tool, and I don't think we want to degrade that in any way possible. It's being tarnished by misperceptions of our perseverance with regard to asset purchases. That makes me nervous. I wish that there was more plain English communication on what our intentions are—it would be enough for markets to understand that. But that's not where we are. And I could wish that that's the case, but I don't think plain language improvements are necessarily going to help us out there. So today, I think it's best to wait for October.

On a couple of individual points, President Williams suggested that the forward guidance clarification in alternative A should be for 6½ percent, not the 6 percent there. I think that's too limited. That would be interpreted as just, again, trying to use plain language to explain to people what our threshold is, and that hasn't proved effective enough. So if we were going to entertain adjusting our forward guidance, I think it would have to be with a different type of number.

Lastly, in paragraph 4, we have the language “In judging when to moderate the pace of asset purchases, the Committee will [, at its coming meetings,]” be looking for further improvements in labor markets and inflation moving back toward its objective. I worry about that. If we say “at its coming meetings,” that’s actually not the right environment for talking about all of the adjustments in our LSAPs. There’s going to be a January meeting, a March meeting—we’re going to continue to make these adjustments. By including “at its coming meetings,” we’re putting too much focus on the first taper decision when it should have a longer-lasting function, and I think that that’s unhelpful. So I prefer not having that language. But as I said, I prefer alternative B as written. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Pianalto.

MS. PIANALTO. Thank you, Mr. Chairman. As I noted yesterday, compared with the situation a year ago, both labor market conditions and the outlook for labor markets have improved considerably. Since our previous meeting, the decline in the unemployment rate and continued gains in private payroll employment reinforce the picture of ongoing labor market improvement. In my view, we should acknowledge the progress labor markets have made since last September and slow our asset purchases while remaining open to making adjustments as required. Therefore, I prefer alternative C today.

Given my view of the progress we’ve seen in labor markets, as well as my economic outlook, I see alternative C as being the alternative most consistent with our prior communications. It delivers on the guidance provided through your June press statement that reductions in asset purchases would cease in the vicinity of a 7 percent unemployment rate. I also think reducing our asset purchases at this meeting would provide markets with a clearer view on the likely timing and structure of remaining asset purchases. A \$10 billion reduction is

likely smaller than some market participants currently anticipate and would be taken as an indication that the FOMC plans to proceed cautiously in removing our accommodation.

Furthermore, it's difficult to see how any real advantage could be achieved by postponing action until our October meeting. We're unlikely to learn that much between now and the end of October. With one month's additional economic data, it's unlikely that many of our views about the outlook would change markedly. And that could leave us waiting until December to act, at which time I expect the unemployment rate to be even closer to 7 percent. In my mind, this would call into question what conditions would likely lead the Committee to make adjustments to, and eventually stop, the purchase program. So, again, adjusting our asset purchases today, I think, acknowledges progress toward the objective of this program of substantial improvement in the outlook for labor markets.

In terms of our longer-term objectives, my SEP submission has a fed funds rate of 1.75 percent in 2016, while I consider normal to be 4 percent. This reflects partially the headwinds that are still affecting my outlook, particularly for the inflation rate in 2016, but it also reflects an intentional decision to provide extra accommodation—that is, to keep the fed funds rate below the guidance of most any Taylor rule. In my case, the SEP is providing the forward guidance that I would support in today's challenging environment.

Regarding possible changes to our forward guidance, of the options that are presented, I would prefer clarifying our reaction to below-target inflation rates, which is being described as an inflation floor. Although I agree with you, Mr. Chairman, that this is not the time to make changes to our forward guidance. Thank you, Mr. Chairman.

MR. FISHER. Mr. Chairman, may I ask a question of President Pianalto?

CHAIRMAN BERNANKE. Certainly.

MR. FISHER. Would you accept tapering back only in Treasuries, or do you want to do it in both?

MS. PIANALTO. I would rather just take a balanced approach—a proportional reduction in both.

CHAIRMAN BERNANKE. Okay. Thank you. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. You did an excellent job yesterday of summarizing a wide array of factors relevant to a decision now. Others around the table have done so as well, so I don't need to repeat a lot of those. I favor alternative C for a lot of the reasons that have been discussed. But for me, one is fairly decisive, and that is the value of following through on actions that are implied by our past communications. When we originally rolled out this program, we very explicitly chose what criterion we would tell the public we were going to use: the outlook for labor market conditions. There are a wide array of things we could have chosen. We could have expressed it more elastically. We could have talked about things that alluded to growth or labor force participation more broadly, but we chose the outlook for labor market conditions. In June, we put more substance into that, more content into that, which we explicitly deputized you to convey, Mr. Chairman.

We said that if economic conditions evolved as we expected, we'd begin tapering later this year. But we also tied the end of the program to 7 percent unemployment, and we were very explicit about this—this was Governor Stein's proposal. We said that, in the middle of next year when we expect to end purchases, the unemployment rate would likely be in the vicinity of 7 percent. We decided to make that link very explicitly, and that was a way of communicating the way in which the reduction in the pace of asset purchases was likely to vary with economic conditions and the data as they came in. And, sure enough, they've evolved since June. The

outlook for the labor market has changed. It's improved. We actually expect to get to 7 percent sooner than we did in June. It now looks as though we're going to get there in the first quarter. We might even get there sooner. So if we're going to start to taper in a way that's consistent with what we authorized the Chairman to say, we need to get started.

And then, on top of that, as a result of all that we've communicated to markets, we've come into this meeting with a broad majority of market participants expecting us to begin tapering at this meeting. We've had a lot of trouble communicating this year, and it was a bumpy spring until we got ourselves organized in June and settled on a framework to communicate. I would think we'd want to strive mightily to avoid the appearance of lurching to some new communication framework or some new strategy to govern how we're going to end our asset purchase program.

I sense some ex post regret around the table. Set aside our past communications. We've been doing this asset purchase program. And, if you pretend we hadn't told anyone what was going to govern it, you can picture a lot of criteria that could bear on the decision to start tapering. You can picture a lot, and a lot of that has come up today. President Lockhart, President Evans, and others have advanced a lot of considerations. But we decided to close off a lot of them. We communicated that we were going to focus on something a little more narrow, which is the outlook for labor market conditions. Well, that means that there was a chance that in the future, on a day like today, we'd have some considerations that we would have liked to bring to bear on the decision, but that we've committed not to bring to bear on it. The answer to any ex post regret in this situation is a question. How much faith do you want people to place in what we say in the future about future monetary policy? So for me, that suggests that today's

meeting is about following through on what we've said in a way that's clear and doesn't whipsaw markets. And for me, that's alternative C.

CHAIRMAN BERNANKE. Thank you. President George.

MS. GEORGE. Thank you, Mr. Chairman. I support alternative C. We have taken costly steps over the past several months to prepare markets for a modest adjustment to the pace of asset purchases, and markets appear prepared for such an adjustment at this meeting.

It is clear that our individual judgments vary, and, certainly, we've not developed any collective sense about what constitutes substantial improvement in the outlook for the labor market. My own reading of the language in the statement suggests we may have confused the stopping rule with the conditions needed to begin paring back on the level of monetary easing. Our statement says we will continue until the outlook for the labor market improves substantially, and I think an action today to modestly reduce the pace of purchases, even if our individual or collective outlook hurdle is not met, clearly continues monetary easing for some time.

As I've noted in past meetings, I see substantial progress continuing in labor markets. The Blue Chip survey reported last January that the average monthly employment gain in 2013 was expected to be 158,000. Their latest survey indicates that the average monthly employment gain next year is expected to be 192,000. In the September 2012 Tealbook, the projection for employment growth in mid-2014 was around 200,000, and, if you keep that forecast horizon the same, the projection in the current Tealbook for employment growth in mid-2015 is about 250,000.

I continue to support the road map for purchases that the Chairman presented at the June press conference and view the data as having been sufficiently positive to continue with this

plan. Consistent with this road map, our previous guidance, and market expectations, my preferred course of action is to begin tapering at this meeting. Reducing both Treasury and MBS purchases, as proposed in alternative C, is acceptable, although I would suggest that we have the latitude to adjust that mix based on recent research, including that by Krishnamurthy and Vissing-Jørgensen. That research finds very slight spillover effects of Treasury purchases and suggests that an adjustment of \$10 billion in Treasury-only purchases would do little to tighten broader financial conditions.

I also support the idea of signaling that increases in the fed funds rate after liftoff are likely to be gradual as we assess the economy's response. However, the qualitative guidance along the lines of alternative B would not reduce uncertainty, in my view, given that the current range of estimates in our SEP is from $\frac{1}{2}$ to $4\frac{1}{4}$ percent. And so, to provide more clarity, I could support incorporating the median estimate of the funds rate from the SEP into our FOMC statement. Moving this information from the SEP to the statement would carry a formal endorsement of the Committee regarding the likely path after liftoff, which I could see as a valuable tool as we approach exit.

Even as I advocate for this initial modest reduction in purchases, I share the desire to see further progress with this recovery and to be assured that no setbacks lie ahead—even to achieve escape velocity, as some have noted. But it seems to me that waiting for more evidence in the face of continuing economic growth unnecessarily discounts the real progress we have seen and the potential cost of a policy tool with which we have limited experience. I am mindful that we will continue to add to our balance sheet and to promise near-zero rates into the future. The conditions will remain for risk and imbalances to grow, notwithstanding the shift in rates this summer that may have slowed the momentum in some asset markets. We will have to be

prepared for difficult moves as we apply monetary policy to a growing but not yet fully recovered economy. Moving now and moving slowly will not eliminate volatility but can give markets space to adjust gradually and to resume their role in pricing risk and allocating credit.

My concern with delaying action is that it has the potential to threaten our credibility and the predictability of policy actions. Markets may well be confused by the delay and cause additional volatility. Awaiting further data suggests that the Committee's desire to be data dependent involves putting increasing focus on the most recent data points and less on its medium-term view of the economy. Markets might misconstrue the postponement of action as reflecting our assessment that, in fact, the broader economic outlook is weaker, or as raising the bar for the level of improvement we have to see.

Most important, waiting poses risks to our credibility about the strength of thresholds. Signaling a future policy action, but then failing to follow through, could erode the policy intent. We signaled a likely tapering in the second half of the year, which markets have taken on board starting this month. Looking ahead, we are asking markets to trust us that short-term rates will likely remain near zero for as long as two more years. And, as our forecasts show, we anticipate that in two years, growth will be near or above 3 percent, inflation near 2 percent, and the unemployment rate within 1 percentage point of its long-run level, conditions not historically consistent with near-zero rates. Asking markets to trust that forward guidance will require a great deal of credibility. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. The Committee communicated earlier this year that it anticipates reducing the flow of purchases by the end of 2013. The challenge with implementing this communication is that the decisions about the timing and the

magnitude of reductions could affect the public's beliefs about the Committee's future strategy: in particular, what actions the Committee might be likely to take when the unemployment rate falls below 6½ percent or even what actions the Committee might take before the unemployment rate reaches 6½ percent. This is not a hypothetical proposition. I think this is one of the key lessons, one we should take away from the events of the past three or four months, and that is that our communications about the asset purchase program are spilling over and affecting beliefs about all elements of our forward guidance.

Today I'm going to propose two solutions to this problem we face. One is a narrow, incrementalist approach, and the other is broader and more strategic in nature. Let me start with the narrow solution. I'll work backward in time associated with this. Backward in time, I would advocate that we do follow through by reducing purchases in December, assuming the outlook evolves accordingly. I'm sympathetic to those around the table who have been arguing in favor of alternative C today, in the sense that we're unlikely to see enough hard information about the evolution of the outlook in the next two months to really change the perception of what that outlook is. This narrow solution is to carry forward and reduce purchases in December, assuming the outlook evolves accordingly. As I suggested, it's unlikely we'll see enough information to go back on that.

We should think about the size of this reduction pretty carefully. If we go in \$10 billion chunks, I think there's going to be an existential crisis every meeting for a long time to come. There might be a reason to be thinking about bigger chunks. I'm open on that dimension. I'd just say that I think the act of reducing is having a lot more content for us and for markets than the size that we're considering. And that might be an argument for chunking things a little larger.

But I would not go forward with what I just said in December without taking the correct steps in October to make sure that this problem that I started with does not occur, and that is this spillover in terms of our decisions about the timing and magnitude of reductions in purchases influencing what we're going to be doing in the future after we get to 6½ percent and below about interest rates. We have to work on our forward guidance and our communication to harden beliefs about the future strategies of the Committee through communications along the lines of the last paragraph of alternative A. I'm skeptical of the value of changing, in that last paragraph of A, from 6 percent back to 6½ percent, as President Williams suggested. I think the qualitative guidance that we've offered in the past has been extremely ineffective. We should be prepared to make this decision soon about what we're going to do in a quantitative way, and I am perfectly comfortable with committing the Committee to keep interest rates low until the unemployment rate falls to 6 percent. If we do not provide quantitative guidance, then this problem will still exist. Every decision we make about the purchase program will be influencing the public's beliefs about what we're going to do after the unemployment rate falls below 6½ percent.

In September, I would explain the decision to not taper in terms of this need to sharpen our forward guidance—Mr. Chairman, you will have the opportunity to do this later today. I think that any observer of the past three or four months would recognize that the Committee has a problem on this dimension, and that we need to be stronger, more forceful, and, perhaps most importantly, clearer about what we intend to do as economic conditions evolve. So that's my narrow incrementalist approach, which would be as follows: In September, explain the decision not to taper via the need to sharpen our forward guidance; in October, actually do sharpen our forward guidance by changing the last paragraph of alternative B along the lines of what's in A;

and then, finally, in December, reduce purchases, assuming the outlook evolves accordingly, which I guess, definitionally, I anticipate that it will. That's my narrow incrementalist approach to the problem that I see—the fact that every move we make on the purchase program is having a big influence on investors' beliefs about what we're going to do on every aspect of our future course of monetary policy.

The broader solution is the one that I truly favor, but it has, I think, little support, unfortunately, in the Committee. We just need to be much more systematically strategic. We have to follow a relentlessly goals-oriented approach to policy. Specifically, we always should be doing whatever we can to align the medium-term outlook with the long-term goals we enunciated in the January statement. A reasonable question would be, aren't we already doing this? Well, the answer would be, if we look at paragraph 2 of any of the alternatives—A, B, or C—that we're not doing that. The second paragraphs say explicitly that the medium-term outlook involves elevated unemployment that is gradually declining and inflation running below target over the medium term. We should provide more accommodation until, explicitly, either unemployment or inflation is hitting its target.

It's not just an aesthetic preference for consistency that's driving this. We face the costs of not using a goals-oriented approach on an ongoing basis. As soon as we don't follow a goals-oriented approach, it means that other things are affecting our decisions. What, exactly, are these other things? I actually don't know the answer to this, and I presume markets don't know, either. So there's a lot of guesswork about what those are. Every action we take, like reducing purchases, is met with, "Wow, there must be something else going on in their minds. What is it, exactly?" And that influences, then, term premiums, interest rates, and the effectiveness of policy.

Relatedly, it really makes communication challenging. Even tiny scraps of communication can affect beliefs in a major way because, again, people are trying to guess, what are these other factors that are influencing decisions? Is it financial stability? Is it the cost of the balance sheet? How big are those? What do those mean? Every piece of that is influencing market beliefs.

There's been a lot of talk about credibility today. And it is important for us to live up to tactical credibility. When we enunciate plans going forward, it's important to live up to them. But tactical credibility is dwarfed by the need to maintain strategic credibility. And what I mean by that is, it's the need to be always driving toward our goals in a relentless fashion. If we do not do that, we risk, I think, the biggest loss of credibility, which is the credibility of our goals. When we run below our inflation target—President Lockhart mentioned the disturbing data on this—this is not exactly the way to build confidence in the fact that we have a 2 percent inflation target. We're not building confidence in the notion that we're concerned about high unemployment and low employment by failing to provide accommodation when unemployment is elevated and inflation is low. So I think we very much risk the credibility of the long-term goals that we enunciated in our January statement if we don't actually make choices that drive us toward those goals as rapidly as we possibly can over the medium term.

Finally—and this is not as big a deal, but I think it matters—it really makes decisionmaking much harder for this Committee on an ongoing basis if we don't follow a strategic, goals-oriented approach, because if we're comfortable with a gradual decline of unemployment and a gradual increase of inflation back to target over a five- or six-year-long period, lots of other things can come into play at that stage. How we feel about every tool of accommodation starts to influence our decisionmaking. And, boy, that makes it very hard to

reach decisions. If, on the other hand, you're always driving for the goals, then the only tension is, what is your medium-term outlook for inflation versus your medium-term outlook for unemployment? Those can be very heated and complicated discussions, but that really narrows down the range of conversation and decisionmaking appropriately, I think.

What would a relentlessly goals-oriented approach of the kind I describe imply for today? It would imply doing more than alternative A, because A still has its paragraph 2 of only gradual returns to target. There are other things we could be thinking about. We could be lowering the unemployment rate threshold even below what's suggested in alternative A, to 5.5 percent. We could lower the interest rate on excess reserves. Mr. Chairman, I thought your idea of pegging rates was very interesting—I'm not buying assets because I think the quantity of assets on the balance sheet matters, but because we're trying to influence rates and longer-term yields. And so that's a very powerful argument for actually trying to operate directly in rate space as opposed to quantity space.

But at the risk of trying your patience even longer, fellow members of the Committee, I'll try to wrap up quickly here. I think the key problem we face is that reductions of purchases, even if small, have undue signal content about the Committee's future strategy. I've offered two solutions to this problem: a narrow one, which is to attempt to harden our forward guidance in October and then reduce purchases; and a broader one, which is to adopt a more consistent, goals-oriented approach to formulating our monetary policy in which we always act to align our medium-term outlook with our longer-term goals. I favor the broader one, but you should never let the best be the enemy of the good, and so the narrow one is something that I hope we can work on. Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Yellen.

MS. YELLEN. Thank you, Mr. Chairman. I support alternative B. I admit, though, that I did not find today's policy decision an easy call. There has undeniably been a lot of improvement in the labor market since we started the asset purchase program a year ago, and, on that score, I think a first reduction in the pace of our purchases could certainly be justified. But as I explained yesterday, against that assessment of the extent of progress we've achieved stand my lingering doubts about the potential for further improvements going forward. I still do anticipate that we'll see steady improvement in the labor market, and that inflation will move up toward our 2 percent objective, a scenario along the general lines of that laid out by the Chairman in his June press conference. But, taking both considerations into account, I judge it wiser not to move today and to await additional evidence that raises our confidence that progress in the labor market will be sustained.

The new sentences in paragraph 3 of alternative B, to me, strike the right balance. They acknowledge the improvement in labor market conditions since we began our program, but they also point out that, in the current circumstances, it's prudent to await further confirmation that those improvements will be sustained. The new language in paragraph 4 of alternative B clearly keeps a reduction in the pace of purchases on the table without raising the bar for what we'd need to see in the data.

Alternative B signals that we're willing to be patient in adjusting the pace of our purchases and emphasizes that we remain focused on implementing policies that will achieve our dual mandate objectives. It gently pushes back against the view that many market participants have that we're hell-bent on winding down the asset purchase program for reasons we've not clearly articulated, perhaps relating to efficacy or costs, including financial stability risks. I agree with President Kocherlakota that the same perception is undermining the credibility of our

forward guidance. It also highlights our concern that the deterioration in financial conditions we've seen in recent months could undermine the attainment of our objectives.

Of course, a decision not to reduce the pace of our purchases today does entail some risks. The increases we've seen in longer-term yields appear to be due importantly to higher term premiums, in part reflecting heightened uncertainty about monetary policy. A decision to maintain our current pace of purchases may not alleviate, and could exacerbate, this uncertainty. Moreover, by the time of our October and even our December meetings, we may conceivably remain just as uncertain about the sustainability of labor market progress as we are now. For that reason, I think it's important, as paragraph 3 of alternative B does, not only to stress our uncertainty about future progress but also to point to the cumulative progress we've seen since the start of our program. Actual progress matters, and we may well make further progress. Indeed, all else being equal, the greater our cumulative progress, the more confident we can be that we will ultimately reach our mandated maximum employment goal—the main purpose of the asset purchase program since the outset—and the safer it should become to reduce the pace of purchases. Put differently, it's a lot more reasonable to worry that we won't arrive in Manhattan when we're in Denver or Kansas City than after we've passed through Columbus, Ohio, or find ourselves at the Weehawken entrance to the Lincoln Tunnel.

MR. FISHER. Thank you, Governor.

MS. YELLEN. I didn't want to disappoint you, President Fisher. [Laughter]

MR. KOCHERLAKOTA. I'm learning so much about geography.

MS. YELLEN. In case you were wondering, we're moving along Interstate 70.

[Laughter]

That's not to say that all else is always equal. For example, even if the unemployment rate falls yet further, I might not want to reduce the pace of purchases if I thought, for example, that we were on the cusp of some adverse event such as a fiscal or financial crisis. But the more progress we achieve, the smaller should be the set of circumstances that would justify a decision not to reduce the pace of purchases. That's why I think the stance expressed in the second sentence of paragraph 3 of alternative B, that we "decided to await more evidence that progress will be sustained," does not put us on a treadmill. Each month that we see further improvement in labor market conditions will raise my confidence that, even with a reduction in the pace of purchases, we will finish that 3,049-mile road trip from 101 Market Street in San Francisco via Denver, Kansas City, and Columbus, and happily emerge on the other side of the Lincoln Tunnel.

Since I still expect to see further improvement over coming months, I would be okay with adding the bracketed text "at its coming meetings" in paragraph 4 of alternative B.

Let me conclude with a brief comment on our forward guidance pertaining to the path of the funds rate, building on my comments yesterday. I see it as essential to the attainment of our objectives that this guidance remains credible and that it appropriately shapes market expectations. I worry that the path of forward rates has now risen so much that it may seriously imperil the effectiveness of our policies. Since early May, one-year forward rates ending in three years have risen by roughly 110 basis points, and those ending in four years by 160 basis points. In contrast, since the April Tealbook, the staff's projection of the average funds rate, three to four years ahead, has shifted down by 30 basis points. As I argued yesterday, we need to communicate clearly to the public that, even though we're forecasting good economic outcomes

in the future, our assessment is that their attainment is possible only if we're very patient in removing accommodation as headwinds gradually abate.

As I argued, I do think it's important to better explain our forward guidance to the public. The public will be able to infer that we expect to be patient from the SEP that we'll be releasing. But I think it's more desirable for the Committee as a whole to opine on this topic. I recognize that these thoughts are hard to get across and that the language proposed at the end of paragraph 5 of alternative B needs perhaps more thought about framing or other language. But I agree with President Kocherlakota and others that it is important for us to eventually work on that forward guidance. It doesn't have to be today, but I'd like to see that in future meetings. And I would just add that I agree with President Williams about the kind of language that we might add to explain what particular indicators we would be looking at when thresholds are crossed. I think all of that is very important.

CHAIRMAN BERNANKE. Thank you. Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. I agree with the many people who have suggested that our discussion and decision today are predominantly about what we are signaling about our policies not just today, but also over the course of the next several quarters, in all likelihood. Just to preface my assessment and positions, I want to return us for a moment to two sets of institutional difficulties that we have with market expectations.

The first, as I've said before, goes back to the origins of the current LSAP program in September 2012. The program, as stated in the FOMC statement and, certainly, as perceived by markets, probably did not reflect the broad consensus of the FOMC that was suggested by the strong vote that it had at the time. That's created a certain awkwardness since then, whereby we introduce concepts somewhat tentatively about efficacy or costs; we didn't really want to push

those publicly for good reasons, even though they may have animated concerns of a number of Committee members; and so we find ourselves having to talk publicly in terms of the articulated standard of substantial improvement in labor markets, even though people's own individual calculi are affected by a number of things other than that.

The second problem, which I think has become more apparent today, is that, once again, with the June so-called framework, as we all recall just from that meeting a few months ago, there wasn't really a convergent view on how we were going to proceed with LSAPs. There were several colleagues who seemed to have much more of a chronology in mind: We're headed toward September, and then we're going to proceed after that. There are others who were leery of making very many signals in any direction. And then there were those in the middle, who, ultimately, I think, dictated the standards that the Chairman articulated in the press conference, which were data driven but, obviously, communicated some lean toward taper.

So in my mind, what we have here is a matter of not only managing market expectations, but also managing ourselves. That makes this a very messy decision, as I think is apparent in the comments of people today, which are really quite thoughtful, a cut or two above our normal interventions, on the one hand, and yet reflecting genuine and good faith differences of perspective, on the other.

Now let me turn to, in a policy sense, what the standards for tapering would be. And of course, we have two sitting side by side here: the one from the September 2012 FOMC statement; and the second, the framework for tapering that the Chairman articulated in June, invoking and building on the September 2012 statement but trying to develop that a little further. Well, with respect to the September 2012 statement of overall substantial improvement in the outlook for labor markets, I think it's been pretty clear for a while that, for most people, one's

going-in position on the wisdom and efficacy of LSAPs is pretty closely correlated to one's position on how much labor market improvement has occurred. Labor market conditions are potentially quite broad and encompass a general assessment of the health of the labor market, and so some want to focus on unemployment, and others want to point to net job creation, the labor force participation rate, or the fact that some traditional indicators of dynamism, even though they're showing signs of life, are still pretty depressed by historical standards.

As I think people know, my own view is that there are still a fair number of questions, as I suggested yesterday, about the relative contributions of different explanations for what's going on. Those questions are probably going to stay with us for a while as to how much is achievable in labor markets through policies intended to increase aggregate demand. It's also been my position, which I continue to hold, that, pretty clearly, a good bit more can be done now, and that we will not need to make a decision for a while as to whether we're approaching the limit of what can be achieved in a prudent fashion.

Now, what's "substantial"? This is a classic legal word that gets inserted into a standard and then is susceptible to a variety of interpretations that can be consistent with a variety of going-in positions. So I always thought we were going to have disagreements on that, and so we do. I think we can pin down a little bit more, though, the standards that the Chairman articulated in his June press conference. I do want to read those because there's been a little bit of selective text use today, and I think it's important to recall all of what he said. Sorry, Mr. Chairman, I'm repeating history, your own history, back to you even as you sit two seats down from me.

CHAIRMAN BERNANKE. Go ahead. [Laughter]

MR. TARULLO. He began by drawing the attention of the reporters and the public to the economic outcomes that the Committee saw as most likely, that is, those reflected in the June

SEP. Then he said that those outcomes “involve continuing gains in labor markets, supported by moderate growth that picks up over the next several quarters as the near-term restraint from fiscal policy and other headwinds diminishes. We also see inflation moving back toward our 2 percent objective over time. If the incoming data are broadly consistent with this forecast, the Committee currently anticipates that it would be appropriate to moderate the monthly pace of purchases later this year.”

So he’s established our collective expectations as stated in the June SEP as a benchmark for our later decisions as to whether it’s appropriate to begin to taper. Now, those are not hard numbers, obviously; they’re still qualitative standards. But that was the benchmark. And then, a couple of sentences later, he said, “In this scenario”—that is, our collective SEP projections—“when asset purchases ultimately come to an end, the unemployment rate would likely be in the vicinity of 7 percent, with solid economic growth supporting further job gains.” The 7 percent figure was, I think, intentionally placed in there as a number that drew attention to the fact that this was not a chronologically driven process but instead one that was data dependent. At the same time, however, it was a number that was explicitly linked to the path projected by the FOMC itself in its June SEP.

Now, I think one can look at that with a fair degree of good faith and say, “Gee, what has happened since June?” The central tendency of the SEP in September is actually for lower growth in the rest of 2013 and into 2014. There has been, then, inarguably, no realization of the expectations that moderate growth will pick up “over the next several quarters as the near-term restraint from fiscal policy and other headwinds diminishes.” I think a good case can be made for the proposition, with a fair reading, that the standard that the Chairman articulated in June

arguably hasn't been met. This is not a case in which we would say "X" and then do "not X." It's clearly an area in which there's some uncertainty.

Having said that, I would say that the way I heard Jay yesterday and John today in their descriptions of their own assessments of the data is that a reasonable external observer listening carefully could well think that the June expectations had been met. And somebody earlier made the point that there's been some building of those expectations, not quite as unanimous as, I think, some have specified here. Simon and Steve yesterday, I thought, made pretty clear that there was some divergence of views, even though the preponderance of expectations was toward tapering.

So I would say that, trying not to be driven by my own priors and working assumptions about labor market conditions and health, I think it's a close case whether the standards have been met. It's been the case for quite some time that one can massage the "substantial improvement" standard either to have realized it or to have not realized it. Just looking at it, as you can tell, in a quasi-legalistic fashion—are we meeting standards that have been articulated, and will it be clearly erroneous not to act based on those standards?—I don't think it's a clear case at all, and, again, my policy priors would lead me in the direction of not tapering.

But for me, the key consideration going into this meeting has been what Narayana talked about both yesterday and today—and Janet, I think, just alluded to as well—which is that there has been a pretty pronounced market tendency to read our actions on LSAPs as an indication of our overall policy orientation. This includes expectations on when we're going to increase the federal funds rate, despite the best efforts of the Chairman and many other people on this Committee to draw distinctions between those two policy instruments. I recognize that manifold sources of uncertainty surround expectations on the federal funds rate now: How strong is the

economy, which obviously affects people's sense of where that trajectory is going to be, and what exactly are our intentions? Those dilemmas I noted earlier that exist because of the greater variance of our internal views than we communicated externally probably sow some confusion, and, as many people have mentioned, there are some questions around leadership succession here at the Fed. So there are many things affecting that judgment, but it still does seem that at least a part of the market-driven, as opposed to analyst-driven, pulling forward of the expected date of liftoff is due to this general reading of what our orientation is—and I think that anecdotally and otherwise, we've had some reinforcement for that proposition. In that sense, I return to where Charlie Plosser began—with the proposition, with which I agree, that signaling is what this decision is about. I remain concerned that even a mild taper today will be read as, at least in part, flipping a switch. I know we don't intend it as ineluctable or inexorable, and we can do what we can, beginning with the Chairman's press conference, to push back against that expectation. But to me, in all honesty, it's what's been gripping me the most about this issue since June, as opposed to very fine distinctions as to whether there's been just good improvement or substantial improvement or moderate improvement in the outlook for labor market conditions.

I come down, in the end, for alternative B, but with some of the hesitancy and concerns that I think have been reflected in the statements of a number of you who also came down, in the end, for alternative B. As Janet and several others have said, I think, the emphasis in the proposed statement is on assessing “whether incoming information continues to support the Committee's expectation of ongoing improvement.” The emphasis is on the notion that we're still walking down that path and that the decision today under alternative B is making sure that there's no backsliding. This is, I think, the way we all want to frame it.

Having made a case for alternative B and indicated why that's the way in which I've been leaning, I do want to close with just one caution, which gets back to this issue of managing ourselves as well as market expectations. What I'm about to say, I think, is a little counterintuitive, but bear with me for a minute. From my point of view, it would be better for us to taper a little today on the basis of this mixed record that is susceptible to different interpretations than it would be to not taper today but then get into October or December and have more people saying, "Oh, we really need to taper," regardless of what's going on outside. The reason I say that is, if we don't taper today based on a mixed record—and I think the record would justify not tapering—that is going to draw attention back to conditions and how much improvement there is and how things are picking up. But then, in October or December, instead of what most people expect, which is continued unspectacular but gradual progress, if there's something of a setback in the quality of the data coming in and we taper nonetheless, that risks telling the public, the markets, and everybody that the FOMC is just hell-bent on a strategy of getting out of LSAPs and probably, then, moving the federal funds rate up more quickly as well.

So this is a plea for a little collective self-diagnosis as to whether we are going to be comfortable staying with a data-dependent set of assessments in October and December and January and March. Those are the next four meetings. If that's not the case, then, notwithstanding my policy instincts as to what, in a close case, is the better thing to do, I genuinely would rather have us taper today than have four more members of the Committee, in October or December, say, "We've just got to do it now," regardless of what's happened externally. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. If I could ask the indulgence of the last few speakers, maybe it would be a good time to take a coffee break. Let's come back at 10:30 and complete the meeting.

[Coffee break]

CHAIRMAN BERNANKE. Okay. Governor Stein.

MR. STEIN. Thank you, Mr. Chairman. I will vote for alternative B at this meeting, in part based on President Fisher's admonition about Switzerland. [Laughter] But I do so with some reluctance because I think alternative C is the decidedly better option.

Now, to be clear, my disagreement is more one of tactics and execution, not broad goals. I understand, and largely support, the ultimate aim of alternative B—namely, to push back a bit against the recent increase in rates. I'm also somewhat less concerned about the cost of buying bonds now that the 10-year rate is in the neighborhood of 300 basis points as opposed to 150. Mr. Chairman, you made this point yesterday, and I agree with it: To the extent that there was a theory for why there was a problem with just expanding the size of the balance sheet, it was in part based on financial stability issues, on pushing bond prices away from fundamental values. That was a bigger deal then than it is now. So I think that's a completely fair point.

My objections, really, are not about the scale of the balance sheet. Again, they're not about not wanting to push back. They're all around the issues that we've focused on so far, which are communication and messaging. I think we basically said two things to markets in recent months. One thing we said is, "Don't draw broad inferences about our reaction function and our commitment to forward guidance based on what we do with asset purchases. These are two separate tools." And Mr. Chairman, you worked very hard to hammer this point home after our June meeting and after the rise in short rates. I thought it was exactly the right thing to do,

exactly the right place to be. Now, to some extent, we're going to end up doing a 180-degree turn on this because we're going to say, "Oh, look, we're stepping back from the brink, and we invite you to draw a somewhat more dovish inference about us from that." So that's the first point.

Second, it's clear that we've led markets to believe one way. I don't disagree with Dan's reading of the language in the press conference, but we've led markets to believe that we would in fact do a small taper at this meeting. I do think that not following through will cause some confusion about what our intentions are going forward, and may make it harder to act at a future meeting. Now, as others have noted, I don't at all want to give the argument that because the market expects "X," you should do "X." That's obviously not right. When you're facing a policy decision in which there are real, direct economic costs and benefits, those should be the first order of consideration, not market expectations.

But here's the thing. The choice between leaving the flow rate at \$85 billion or reducing it to \$75 billion is not important because it changes the underlying policy fundamentals in a way that changing the path of the short rate would. It's a token gesture. It's our way of sending smoke signals to the market. We've gotten ourselves stuck in this peculiar history-dependent equilibrium in which these are just words in a funny language in which "85" means one thing, and "85 minus epsilon" means something very different and more hawkish. It's very similar to a situation in which firms sometimes find themselves: They feel as though, if they miss their earnings guidance by one penny, that sends a discretely different signal to the market. And so I think of that as an unfortunate condition that one wants to push back against, not just accept as a fact of life.

If we are playing what's entirely a communication game with the market, it's fair to evaluate decisions in terms of whether they add clarity or create confusion. Importantly, I don't think we want to be endorsing the use of "\$85 billion" as something that's so laden with reaction function meaning. President Kocherlakota made this point—that this is where we find ourselves; it's really just so full of meaning. If we think about it dynamically, what we do today endorses that vocabulary and is going to make it harder for us to move in the future, economic conditions being equal, because this word has acquired so much meaning.

Now, I think the counterargument—as I understand the way you laid it out, Mr. Chairman—is fine. I get all of this game theory stuff. But I want to be a macro pragmatist. I want to ease up a bit. That's the right thing to do, from a macro perspective. I agree with that. I've got to be pragmatic and work with the vocabulary I have. And if that means saying "\$85 billion" a few more times, so be it, in some sense.

So I think those are essentially the two different arguments, and I have a hard time disagreeing with the macro-pragmatic aspect. The question is—and President Williams raised this—do we have a better vocabulary available? Since it's all about communication, is there a better and more effective way to communicate? I think there is. Let me mention three things, two of which I think there's at least some agreement around, and one where I think I'm out there on my own. First, one communication thing President Fisher mentioned was, if we vary the mix of MBS versus Treasuries, does that signal a little bit of understanding about the housing market? I'm certainly open to that; it seems like an interesting thing.

Second, a number of people have mentioned that if, at the end of the day, we're really interested in communicating about our commitment to the path of the short-term rate after liftoff, let's do that. I'm going to come back to that in a minute. But in some sense, that's what we're

trying to talk about. And, really, the question before us is, do we continue to talk about that via “\$85 billion,” or do we talk about what we want to talk about?

Third, here’s where I’m out on my own. Here would be a suggestion: Announce that we’re putting the LSAP program on a completely mechanical, unemployment-linked wind-down, with a stopping value of 6.8 percent—I’ll come back to that in just a second. This is not something we’ve said, this is something different. So, specifically, we do a small taper at this meeting. Every meeting afterward, we drop the flow rate \$15 billion for each one-tenth tick down in the unemployment rate. We’d have to put a cap in there somewhere in case the balance sheet gets really big, so it would be subject to not buying forever. A stopping value of 6.8 percent—no discretion going forward. Simon can basically implement this with no further input from us.

MR. POTTER. Second decimal place or not?

MR. STEIN. We’ll talk. So here’s the key—the no discretion. There are two motivations. On the one hand, say you wanted to send a more dovish message. Well, you could, as I did in this thing, move the unemployment rate from 7 to 6.8 percent. That’s a big deal. The difference between 7 and 6.8 percent is maybe four more months, roughly speaking, of asset purchases. That’s substantial and it’s pretty credible, I think, if you do it this way. So if you’re just interested in saying something a little bit more dovish, that does it. But I think—and this is totally central, in my view—the removal of discretion is really key. It’s the discretion that is the heart of our problem; as Narayana said, we’re going to face an existential crisis at every meeting as we go forward. I think some of us have been thinking, “Oh, once we get past the first taper, life will be good.” It’s not going to be good, because we’ve got this vocabulary, this thing means

something at every meeting, and we're going to face the same problem over and over again. I want to kill the problem, and I think the way you kill the problem is by removing discretion.

Now, the counterargument would be, if you do this mechanical hard rule, the unemployment rate, of course, is not a perfect summary statistic for the state of the labor market or for things we care about. Look, I'm not trying to go all John Taylor on you guys. This is not about rules versus discretion. The very important thing in this case is, we have discretion over our other and more important tool, which is the path of the funds rate. The way I would try to explain this is, we're putting this thing on autopilot. But—and I think this gets very close to what President Williams was talking about in terms of the way you shape the forward guidance, and a little bit of this is in paragraph 5 of alternative A—you make it very clear that after liftoff, we're going to be conditioning on exactly those things that we can't condition on if we subject the LSAP program to a mechanical stopping rule based on unemployment. After liftoff, if labor force participation comes in a little weak or if inflation is lower, all of that, which we're going to explain now as clearly as possible, will shape how we behave after crossing the 6½ percent threshold.

So that's basically the point. Again, I wanted to make clear the concerns I have over alternative B—there's a fair point that a number of people have raised: You don't want to just get locked into saying, "I hate asset purchases, and I've hated them for a long time, and I want them to die." But I think the concern is no longer really over that, and this proposal, in fact, might lead us to do, in expectation, more in the way of asset purchases than whatever policy we may be following if we go down the alternative B route. I think it's really that we've got a communication problem. We've felt it now at a number of meetings, and we're likely to feel it at a number of meetings going forward. We'll be doing ourselves, the incoming Chair, and the

new Committee a huge favor if we can put this to one side and focus. We're going to have our hands full with focusing on the short-rate set of issues, and I think we'll communicate more clearly about those if we're focused on that. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Powell.

MR. POWELL. Thank you, Mr. Chairman. In my view, it would be preferable to do something along the lines of alternative C today. And I actually think that the market reaction to Larry Summers's withdrawal has given us a little more room to go that way.

Specifically, I lean to a small taper at this meeting, combined with a sharpening of the guidance. Digging into that a little bit, I'm one of those who argues that the taper should be symmetrical, but I'm definitely coming around to the view that there is an attraction in cutting just Treasuries. So I'm okay with that to send a supportive signal for housing. As far as guidance sharpening goes, I continue to be reluctant to tinker with the thresholds. But I think the Committee should think about doing two things, the first of which is to emphasize the likelihood that we will be slow footed when it comes to liftoff, and the second of which is that we'll raise rates slowly after liftoff. As far as the former is concerned, I thought President Williams's suggestion for a pause for thinking is a constructive one; it suggests that we will pause and think, and this is what we'll think about. And regarding the latter, I am comfortable with something like the language in alternative B that Governor Yellen and others have discussed. Generally, it seems to me that the only real way to break the connection between asset purchases and forward guidance is really to find a way to strengthen the guidance—without, it's hoped, writing too many blank checks. But I think that's the way to go. If you start to worry about the guidance and that affects your decision on whether to taper, that's a road that's fraught with trouble.

On the decision to taper, I argued yesterday that current conditions would support a small reduction in purchases at this meeting. The communications and tactical issues also point in that direction. And by the way, I do think it's a case that can be argued on the other side, and was very well argued by Dan.

Market sentiment is clearly that the Committee will reduce purchases at this meeting. Nearly every major Fed watcher thinks so, even those who oppose any such move. Sixteen of the 21 dealers think so. One of the hedge funds I talked to does a private survey of the desks of the major dealers, and 8 of 8 of them expect us to do a small or a medium-sized taper—that was true both before and after the first estimate of August payrolls. A friend of mine who runs a large pension fund sent me something from the desk of one of the big dealers saying that the desk was positioned for a small taper and recommending that clients position that way as well. My friend talks to a lot of market participants, and he's not somebody who has got a lot of dollars down on this bet, so it's not influenced by that. But his words were, "A modest taper is priced in. You've essentially got a free option to move. Folks believe you will and should take it." That's an exact quote. So there's just no guarantee—and, frankly, not much likelihood—that we're going to see a situation again anytime soon in which the market is quite this sure about it.

Now, I know that if you look at the underlying probabilities, you can argue that this is 60 percent likely or something like that. I really do believe that this is more of a binary world out there. I think this is a world where you've got to make a decision based on the information you have. If you think something is 60 percent likely, you're going to say "yes" every time. It's like, you can't propose to somebody by saying, "I'm 75 percent likely to ask you to marry me." It's going to be one or the other. [Laughter]

In this world, the Street, everyone is very much positioned for this. So that's the overwhelming expectation, independent of whether the market thinks it's a good idea or whether we think it's a good idea or whether it is a good idea. Market expectations don't tell us whether it's right or wrong; they tell us about our communications and about likely market reaction. My point is, I think this will be a significant dovish surprise. And in the short term, that's likely to feel good in the market, like a warm bath. Depending on the rest of the message, financial conditions would be likely to loosen a bit further. My concern is more that as September turns to October and November and December, that warm bath may get cold and clammy.

There are two possible stories that the market could take away from this. One of them I would call the risk-management story that people have articulated: We see a little weaker data, financial conditions tightening, and some event risk; we're weighing that, and we're thinking that it would be wise, and it would be prudent, to wait. That, I think, is the good story. If we can make that story stick, we'll be okay. The other story is that there is significant buyer's remorse in the Committee or we are just confused, we're sending a bit of an erratic signal, the market won't know what to do, and we'll significantly raise the bar for future tapering.

Our answer to that is to go out with a pretty forward lean in the press conference language. I think we've set the bar pretty low for future tapers in alternative B. That's our answer, and I think that that has to be the answer—or for me, it's the answer—if you're going to do alternative B. But it's a hard thing to explain. There is just a tension, unavoidably, between holding off now and being ready to go, in a month or so, on the same data. The comment will be, “You had us ready to go then. It doesn't make sense.” So there will be a desire to read more into it, no matter what we do. But I think we've really got to make the first explanation stick if we're going to go that way.

I would also echo another thing that Dan said, which is that we have to emotionally accept the idea that there's no guarantee of October or December. If we don't do this now—and it doesn't seem as though we're going to—it's quite plausible that we would be at this for another six or nine months without being able to taper, because it's not going to be in our interest. You can do a dovish surprise; you're not going to be well advised to do a hawkish surprise when the market is not ready for your first taper. So I just think that's reality.

I understand we're going to hold off today—I suspect, anyway. And I will support alternative B. I would have a preference for C. It's a very close call, but the Chairman has more than earned the right to go out on the monetary policy that he wants. Again, it's a very close call and plausible either way. So I will support alternative B. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you, Governor. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Mr. Chairman. I thought long and hard about the choice about whether to begin to reduce the pace of purchases, and it is a close call. But I concluded that it was still premature to undertake a reduction at this particular meeting, for four reasons. First, the pace of economic activity has been a bit disappointing relative to our expectations. Real GDP growth in the current quarter looks as though it's going to come in at only around a 2 percent annual rate. We've been forecasting a pickup in the growth rate for quite a while, and it hasn't arrived yet. Given our poor forecasting record in recent years, I don't think we should act just on the basis of a forecast.

Second, financial conditions have tightened in anticipation of a shift in monetary policy by more than we intended, certainly. This does create a new headwind for the economy. I think we need to evaluate the impact before we move in a way that might tighten financial conditions still further. How much the housing sector will be hurt by the rise in mortgage rates is still

highly uncertain because of the time lag between offers to purchase a home and the closing of the contract, and we're going to know a lot more about the impact of the higher mortgage rates on housing within the next few months.

Third, I think the timing at this meeting is bad relative to the substantial fiscal risks that lie ahead over the near term surrounding prospects for the continuing budget resolution and the resolution of the debt ceiling. I don't know how long that's going to take to play out, but I would certainly expect that, by the end of the year, we'll have much greater resolution on that front.

And, fourth, to go back to a point raised by Governor Powell, I think risk-management considerations really do suggest a cautious approach. If the economy proceeds as expected or is stronger than expected, then we can do a good-sized reduction in asset purchases in October or December. In contrast, if the economy is weaker than anticipated, I think we'll regret moving before we've actually seen a pickup in the economic growth rate.

Also, there's a risk that moving will generate a larger adjustment in financial conditions than is warranted by the actual policy change. I think most of us have been surprised by how big the rise in Treasury and mortgage rates has been since May. And that occurred in response just to our musings about the possibility that we might reduce the purchase rate later this year, rather than our actually doing so. So I think we have to be cautious in that respect.

Now, while it's true that some reduction in the pace of asset purchases is anticipated within the next few months, the actual decision to do so could trigger bigger effects than anticipated because of threshold effects. The market would see us as being over the threshold, sufficiently confident now to begin a reduction in asset purchases, and that could send a more powerful signal to the market even as we try to mitigate that signal by making a very small taper. The whole idea of this small taper is to mitigate the signal of what this means to the market. In

the current environment, with growth still stuck around a 2 percent annual rate and inflation below our 2 percent objective, it strikes me that we need to be pretty sure about sustainable improvement in the labor market before we move. I'd actually prefer to wait and start later with a larger taper, versus starting earlier with a smaller taper.

Also, as a final consideration, if we don't taper at this meeting, it's actually going to be easier to do this testing of the reverse repurchase facility without having to worry that the testing is going to cause people to interpret that facility as being a precursor to an earlier exit. So the communication in terms of using the new facility will be a lot easier, I think, if we don't taper at this meeting.

Some people have argued that we should begin to taper because that's what market participants generally anticipate. I don't think that's a good justification, for two reasons. First, we can't be led around by the market. We never said we were going to move in September. As Governor Tarullo pointed out when he went through the Chairman's press conference, we said "later this year," if the economy evolves in line with our expectations. We should emphasize that the timing is data dependent, and we gain credibility, I think, by being true to that. Second, as Simon and others have mentioned, market participants are by no means united in the view that we'll begin to move at this meeting, and so we're going to disappoint someone. At the end of the day, what we have to be driven by is being true to what we said we were going to do—being data dependent. Have we quite achieved the test yet? I don't think we have.

Now, the messaging of the action is extremely important, and I think we really want to cast this as, "We are making progress on the labor market, and we are getting more confident that we're going to get to our objectives. But in light of the mixed data, the tightening of financial conditions, and the fiscal uncertainty right ahead, we're not quite over the threshold yet.

If things evolve in the way that we anticipate, we think we'll be over the threshold relatively soon. But it will be dependent on the data.”

I don't have strong views in terms of Treasuries versus agencies. I guess my bias is that I'm not sure it makes that much difference. At the margin, as we discuss this in the future, I would certainly accept a decision to cut more in Treasuries than in agencies. But that's splitting hairs relative to the decision about whether to taper or not to taper.

In terms of language, I think paragraph 5 in alternative B—the concept is really important. Why is the SEP projection for the funds rate still at around a median of 2 percent in 2016? I think we really need to explain that it's because policy needs to be at a low interest rate setting for a while to provide support so that we can just grow at a trend rate in 2016. That's essentially what we're saying. I don't think, though, that putting it in the statement at this time will actually provide clarification. People will look at it, and they'll read it, and they'll go, “What is this all about?” So I think it's better to talk about it in the press conference, talk about it in the minutes, talk about it in speeches, and then try to craft language in the statement in subsequent meetings that drives this home a little bit more.

Finally, in terms of the bracketed language, “at its coming meetings” is perfectly accurate, so I think we will definitely want to put that in. It would be weird if we weren't going to consider it at coming meetings, so I don't see that as controversial. It's consistent with following the framework that the Chairman laid out at the June press conference. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you very much. Thank you for an exceptionally good discussion of what really and truly is a close decision.

I support alternative B. Let me defend that preference. Let me begin by addressing the question of whether or not we are going back on our word or abandoning our framework or anything like that. Let me just say that, first of all, everybody I heard around the table and everybody I consulted with before the meeting on a bilateral basis—not everybody was thrilled *ex ante* when we did what we did in June, but I think, at this point, everybody around the table is willing to live with and adhere to the framework that I laid out in June, and Dan did us the favor of reminding us what it was.

I think that we do have mechanisms for reinforcing that we are remaining within that framework, besides my obvious opportunity at the press conference. Just looking at the language here, first in paragraph 3 of alternative B, the beginning of that, we say we take note of “the improvement in economic activity and labor market conditions since it began its asset purchase program,” which is “consistent with growing underlying strength in the broader economy.” That strikes me as a pretty upbeat description, a basic outlook that is for a pickup of growth as fiscal drag is reduced and continuing improvement in labor market conditions. And I do have planned, in my opening remarks today, to spend some time on the cumulative improvement we’ve seen in the labor market, which, obviously, lays the predicate for our meeting the condition of substantial improvement in the labor market.

Second, I would note that in paragraph 4 of alternative B, there’s a key sentence that starts “In judging when to moderate . . . ,” not “In judging whether to moderate . . . ,” or “In judging if to moderate . . . ,” so there’s a presumption there that moderation will take place. It’s just a matter of timing. I take it, in listening to people around the table, that the working majority is in favor of including the phrase “at its coming meetings.” If that’s not the case, we’ll have an opportunity to talk about that in a second. But obviously, beyond being factual, as the Vice

Chairman suggested, I think he also knows that it's going to be a bit of a hint that coming meetings are still on the table. And as I mentioned yesterday, I will be clear that even October is on the table, notwithstanding that there's no scheduled press conference. That sentence also says that the Committee will be assessing "whether incoming information continues to support." In other words, it's been supporting. Does it continue to support "the Committee's expectation of ongoing improvement"? So I don't know how we could be any stronger in saying that we've decided, at this meeting, that we don't quite meet the bar, but that we're still well within the framework; my answers are all structured around the June framework.

Again, all of that said, there were a couple of elements of the June framework that are important. First, "later this year" is later this year; it doesn't necessarily mean September. Second, and more important, as in the statement, "asset purchases are not on a preset course." The conditionality, the data dependence, is, I think, really important, and the strength of this program was that it was tied to progress in the economy—that was the main innovation over the previous asset purchase programs. And we want to ensure that people understand that asset purchases are still tied to the data. In short, I think the public will understand, most of them, that we're still within the June framework and that we're exercising the conditionality clause, if you will, in that framework.

Now, what's the case for taking no action? I see three basic arguments. The first argument is, remember that the conditionality is that the data are consistent with our underlying expectations of growth, labor market conditions, and inflation. I think the recent data are pretty ambiguous—President Lockhart, didn't you say "persistently ambiguous"?—and do raise some questions. There is a very significant increase in interest rates, and that continued since July, notwithstanding the fact that there weren't any more communication events. It has been

remarkably quiet since the previous meeting, and, nevertheless, rates continued to drift up. That said, mortgage rates appear to have stabilized, at least for the moment, and we've seen some impact on housing. It'll be important to understand, particularly in housing but also in other interest-sensitive areas, how big that effect is likely to be. So the increase in interest rates, I think, is an important development, one that I will note and one that is noted in the statement.

In addition, something which I won't emphasize but which clearly will be a subtext in talking about labor market conditions, is that the last couple of labor market reports were pretty weak—109,000 jobs in July, an unemployment decline in August that was more than accounted for by declining participation. This is not to say that we should draw a strong conclusion that we are off track, but rather that, given the noisiness of these data, we may want to see a little bit more information before concluding that the progress we saw earlier in the year and since September is being continued at about the earlier pace.

Also, while it is true that recent inflation has picked up slightly as the temporary factors unwound, as R&S predicted, inflation is quite low, and one could arguably ask whether or not there's any basis for thinking it's going to be approaching target anytime soon. I de-emphasize that because, obviously, that's not something we're going to know much about in the next month or two, but it does condition the overall outlook a little bit.

I also won't put much weight on fiscal uncertainty, but I think that it is a consideration—both the uncertainty about the total impact of the fiscal restraint that was undertaken earlier this year and the events that are coming up for October. To summarize all of that, as I think Governor Tarullo mentioned, the SEP downgraded 2013 and 2014 growth—again, raising a tough question about, why are we doing this now? So, as I said before, you can defend tapering, and I guess the clearest case was made by President Plosser, who said, “Well, there's been some

change, but it's well within the bounds of noise, and we don't really know that we've seen any real change." And I think that's fair. But before taking this step, I would like to have a little bit more confirmation that progress is continuing. So the first argument is that the recent data really are somewhat ambiguous, and additional information could be helpful.

The second argument has also been addressed. There are some issues of signaling and communication here. It's a very delicate balance, but, to the extent that markets believe that—and the word “hell-bent” keeps coming up—we are determined to get out of this program as fast as possible, no matter what happens, that's bad not only for our rate guidance, but also for the general perception of our willingness to be aggressive in supporting economic recovery. And I think a little bit of a surprise could actually make that point. I'll come back to that issue in just a second.

My third basic argument is risk analysis, and it's been talked about. There is some chance that the actual act of tapering will flip a switch—as, I think, Governor Tarullo said—and cause rates to move up meaningfully more. That is a pretty significant risk, given how much they've already risen and how quickly. In addition, as I mentioned yesterday, it may not be a high probability, but, given the recent data, there's some chance that things will worsen notably in the next few months, in which case we will very much regret having taken an action today and we will have a lot of reputational damage, I would assume. On the other hand, if conditions continue to be more or less as they've been recently, then we're okay, basically, in either case because we'd be able to start the taper process at the next couple of meetings.

Now, having said all of that, I do recognize that if I had any illusion that I could predict the market response to communication, it has been completely shattered. [Laughter] So I hereby adopt the Rubin view that markets will fluctuate, and I do not know for sure exactly how the

markets will deal with the fact that we will be surprising them somewhat. I will do my best to clarify that we remain within the June framework, and that we are going to begin the process of winding down the program, contingent on the data confirming the basic contours of our outlook. But I recognize that there is some risk there, and you just have to make the best guess that you can.

So those are the reasons that I would support alternative B at this meeting. Let me say one other thing, which I gathered from the discussion. There's a lot of interest, I think, in strengthening our forward guidance, which I've been supporting for a while. It's a really good idea. People have noted, in particular, the inflation threshold, the post-liftoff period, and, as Governor Stein suggested, maybe even more guidance on the asset purchases would be worthwhile. I would suggest that we and the staff, in its copious spare time, can take a look and maybe do some preliminary consultation so that we can look very seriously in October at how we might strengthen the guidance, which would be a very useful offset if we are able to taper, because it would, again, separate, to some extent, these two tools. So I think that's certainly worth pursuing. One reason to do it in October as opposed to today is, not only is it virtually certain that the leadership uncertainty will be resolved, but it's also very likely that we will have a couple of Board nominations. There will be, at that point, a greater sense of certainty about the composition of the Committee going forward. Obviously, people in confirmation mode are not going to be making speeches advocating particular policies, but, nevertheless, the backgrounds and records of the individuals would provide some information to the markets. So that's what I'd like to propose. That doesn't mean we couldn't also reduce purchases in October; I'm prepared to do that. But, as a backstop or even as a complementary move, I think we ought to be looking very carefully at our guidance in October.

Let me just go through the language really quickly here. Let me see and make sure that there aren't any particular concerns. I heard nothing at all about paragraph 1 of alternative B, the description of the economy. The word "further" is in brackets. Remember, the word "further" was used in July. So I guess I would suggest that we take off the brackets and just leave "further" there.

Second, I take President Fisher's observations about financial conditions. There are many dimensions of financial conditions. They include the cost of capital as well as the availability of credit. Nevertheless, I do think that, certainly, the higher mortgage rates, which are cited in paragraph 1 of alternative B, are one of the things that we are looking at, and we do want to understand the implications. But it's not just housing—I think we also want to see what's happening to other interest-sensitive factors.

No one mentioned paragraph 2 of alternative B, either.

MR. FISHER. Mr. Chairman, may I make a slight suggestion so that we're more accurate?

CHAIRMAN BERNANKE. Sure.

MR. FISHER. I would have that section just say "But some tightening of financial conditions has occurred in recent months and, if sustained, could slow the pace of improvement in the economy and labor market." I don't think you take anything away. I think, again, market operators would wonder what we're talking about, because they're seeing tightening in certain sectors. But I think if we just say "Some tightening of financial conditions has occurred in recent months and, if sustained . . ."—that's literally true.

CHAIRMAN BERNANKE. But this statement is true, too. You could say “the tightening.” It means that whatever tightening there was, even if it was small, is something that could slow the pace of the economy. It didn’t say “the large tightening.”

MR. FISHER. It’s a minor change. If you reject it, fine. I just wanted to request it.

CHAIRMAN BERNANKE. Yes. Are there other suggestions on that or support for that?

VICE CHAIRMAN DUDLEY. I think I like it the way it is.

CHAIRMAN BERNANKE. I think I would like to keep it the way it is.

MR. FISHER. I fold my hand. Thank you.

CHAIRMAN BERNANKE. No, I appreciate it. I would also suggest that we keep the “on net” here that’s bracketed.

Now, I was interested—I think it was President Kocherlakota, you suggested the fiscal reference in the beginning of paragraph 3. This is a pretty strong introductory statement. It basically has a theory, which says that the thing that’s holding us back is “federal fiscal retrenchment”—otherwise, we would see a stronger economy. That’s something I’m perfectly comfortable with. And it does take a somewhat more optimistic tone about the underlying strength of the economy. No one commented on that, so I’m assuming that this sentence is okay, but if anyone is concerned about it, they should say so. [No response]

All right. Let me just note, in case there was any confusion, that the introduction of “stronger economic recovery” and “inflation, over time” at the end of paragraph 3 of alternative B is simply moving the phrase that was crossed out at the beginning of the paragraph. So there’s no substantive change intended by that movement.

In paragraph 4, I think that the sense of the discussion was to include “at its coming meetings,” and that no one seemed to have any concerns about the rest of the language. If there are concerns, please say so. [No response]

Finally, there were a couple of comments about paragraph 5. In particular, President Williams noted some language on the post-liftoff plans. My sense of the discussion was that we ought to do this in October in a more systematic way, but I do think that the language is promising. Let me say why I think it’s promising. The sentence that says “In determining how long to maintain a highly accommodative stance of monetary policy, the Committee will also consider other information,” actually could apply to the threshold as well as the period after reaching the threshold. And what’s nice about the language in paragraph 5 of alternative A is that it very explicitly says that, after we get to 6½ percent, we’re going to start looking at other stuff. Alternative B is actually a little bit vague on that particular point.

Finally, I think—and I’ll ask Governor Yellen for her agreement—that most people felt it would be better to leave this sentence off for now, the last sentence in paragraph 5 of alternative B, because it’s a complicated idea. However, I would like the permission of the Committee to explain why the SEP has this property. And the main reason, I guess, would be that the Committee believes that it can achieve maximum employment and price stability, as the SEP suggests, by 2016. But in order to do that, given headwinds, we’re going to have to be very patient with our rate policy. That’s the expectation of not everyone on the Committee, but certainly the majority of the Committee. Any objections to my saying something like that? President Kocherlakota.

MR. KOCHERLAKOTA. I don’t have an objection. I’m very sympathetic to that description of the Committee’s views. I will say that I have tried myself to explain this issue to

reporters in the past, and I think what you just said is very clear to people in this room, but there might be some need to flesh it out a little bit. This is a suggestion based on past experience.

CHAIRMAN BERNANKE. Well, I was planning to say a few words about it in my opening statement, and, obviously, there will be an opportunity for questions as well.

MR. EVANS. Mr. Chairman?

CHAIRMAN BERNANKE. Yes.

MR. EVANS. If I could just say this: One reaction to that would be to try to get the wording exactly right. Another reaction would be to just repeat it many times. One of the advantages of your NBER commentary was that you followed, basically, the plain English of what you'd said in the press conference, but by repeating it over and over again, I think it sinks in.

CHAIRMAN BERNANKE. Are you talking about this last sentence?

MR. EVANS. As an example. When we get to a difficult concept, I wouldn't be stymied by the fact that it's a little hard to understand. If the plain English is good, then repeating it—

CHAIRMAN BERNANKE. Yes, I've discovered that elegant variation is not really a central banker's friend. [Laughter] All right. Any other comments or questions? Again, I really do appreciate people's openness and thoughtfulness in this discussion. It's a difficult decision. In the end, I think that, while it's worth doing this and my hope is that it will send a signal of our commitment to doing what's necessary to achieve our objectives, I'm a little more optimistic than Governor Powell about this. I think that we are, ultimately, going to converge to the same path, more or less, that we would be on if we took a small action today, but of course, that remains to be seen. President Fisher.

MR. FISHER. Mr. Chairman, I've been sitting at this table for eight years. I think this is the single best session I've sat through in that everybody was enormously thoughtful.

Obviously, it's an important decision. It's the longest I've ever heard Esther speak, and—

CHAIRMAN BERNANKE. Maybe that was the reason.

MR. FISHER. Yes, it was a very impressive statement. And it's the only time I've heard four individuals use the term "hell-bent" in eight years. Thank you, Mr. Chairman.

MR. KOCHERLAKOTA. I think this was a really good discussion.

CHAIRMAN BERNANKE. It was very helpful. I asked yesterday for people to think not only about today, but also about the rest of the year. And I think we kind of backed into what might be a decent plan for the rest of the year, particularly focusing on our guidance in October and, of course, responding to the data in terms of the asset purchases.

All right. If there are no other comments, could you call the roll, Debbie?

MS. DANKER. Yes. This vote is on the alternative B statement that was handed out, in which the bracketed words in paragraphs 1, 2, and 4 are included and the bracketed sentence in paragraph 5 has been dropped, and the accompanying directive.

Chairman Bernanke	Yes
Vice Chairman Dudley	Yes
President Bullard	Yes
President Evans	Yes
President George	No
Governor Powell	Yes
President Rosengren	Yes
Governor Stein	Yes
Governor Tarullo	Yes
Governor Yellen	Yes

CHAIRMAN BERNANKE. Thank you very much. Lunch will be available at 11:30.

There are no presentations or business. There will be a screen in the Special Library for the

press conference, if any of you have nothing better to do at 2:30. And the next meeting is Tuesday and Wednesday, October 29 and 30. Thank you all. The meeting is adjourned.

END OF MEETING