**Meeting of the Federal Open Market Committee on
September 22–23, 2009**

A joint meeting of the Federal Open Market Committee and Board of Governors of the Federal Reserve System was held in the offices of the Board of Governors in Washington, D.C., on Tuesday, September 22, 2009, at 2:00 p.m., and continued on Wednesday, September 23, 2009, at 9:00 a.m. Those present were the following:

Mr. Bernanke, Chairman
Mr. Dudley, Vice Chairman
Ms. Duke
Mr. Evans
Mr. Kohn
Mr. Lacker
Mr. Lockhart
Mr. Tarullo
Mr. Warsh
Ms. Yellen

Mr. Bullard, Ms. Cumming, Mr. Hoenig, Ms. Pianalto, and Mr. Rosengren, Alternate Members of the Federal Open Market Committee

Messrs. Fisher and Plosser, Presidents of the Federal Reserve Banks of Dallas and Philadelphia, respectively

Mr. Lyon, First Vice President, Federal Reserve Bank of Minneapolis

Mr. Madigan, Secretary and Economist
Mr. Luecke, Assistant Secretary
Mr. Skidmore, Assistant Secretary
Ms. Smith, Assistant Secretary
Mr. Alvarez, General Counsel
Mr. Ashton, Assistant General Counsel
Mr. Sheets, Economist
Mr. Stockton, Economist

Messrs. Altig, Clouse, Connors, Kamin, Slifman, Sullivan, Tracy, Weinberg, and Wilcox, Associate Economists

Mr. Sack, Manager, System Open Market Account

Ms. Johnson, Secretary of the Board, Office of the Secretary, Board of Governors

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

Ms. Barger and Mr. English, Deputy Directors, Divisions of Banking Supervision and Regulation and Monetary Affairs, respectively, Board of Governors

Ms. Robertson, Assistant to the Board, Office of Board Members, Board of Governors

Ms. Edwards, Messrs. Reifschneider, and Wascher, Senior Associate Directors, Divisions of Monetary Affairs, Research and Statistics, and Research and Statistics, respectively, Board of Governors

Mr. Oliner, Senior Adviser, Division of Research and Statistics, Board of Governors

Mr. Small, Project Manager, Division of Monetary Affairs, Board of Governors

Ms. Low, Open Market Secretariat Specialist, Division of Monetary Affairs, Board of Governors

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

Mr. Connolly,[1] First Vice President, Federal Reserve Bank of Boston

Messrs. Fuhrer and Rosenblum, Executive Vice Presidents, Federal Reserve Banks of Boston and Dallas, respectively

Mr. Hakkio, Ms. Mester, Messrs. Rasche, Rudebusch, and Schweitzer, Senior Vice Presidents, Federal Reserve Banks of Kansas City, Philadelphia, St. Louis, San Francisco, and Cleveland, respectively

Mr. Weber, Senior Research Officer, Federal Reserve Bank of Minneapolis

Mr. McCarthy and Ms. O'Connor, Assistant Vice Presidents, Federal Reserve Bank of New York

Mr. Chatterjee, Senior Economic Advisor, Federal Reserve Bank of Philadelphia

[1] Attended Tuesday's session only.

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September 22—Afternoon Session

CHAIRMAN BERNANKE. Good afternoon.

MR. KOHN. Mr. Chairman?

CHAIRMAN BERNANKE. Yes.

MR. KOHN. May I interrupt?

CHAIRMAN BERNANKE. Please.

MR. KOHN. I'd like to congratulate you on your reappointment. I think you've provided critical leadership to the Committee through these past, sometimes difficult, years. I'm glad the President recognized that you are the best person for the future, and I'm sure the Senate will agree very shortly, so congratulations. [Applause]

CHAIRMAN BERNANKE. And many thanks to the Committee for the collegial work and discussions we've had through a very difficult period. I appreciate how much we've all pulled together and dealt with some of these enormous problems.

I need a motion to close the Board meeting.

MR. KOHN. So moved.

CHAIRMAN BERNANKE. Let me first welcome Jim Lyon to the table. Jim will be sitting in Gary Stern's spot. Gary retired, as you know, two weeks ago, and we will have a luncheon tomorrow after the meeting to honor Gary.

The first item on the agenda is financial developments, open market operations, and System credit facilities. We'll start with a briefing from the Desk by Brian Sack. We'll have a Q&A after that, and then we'll follow that with some additional staff briefings. Brian?

MR. SACK.[1] Thank you, Mr. Chairman. Prices on a broad range of risky assets continued to rise over the intermeeting period, fueled by an improving economic outlook and the low level of financing rates arising from the current stance of monetary policy. Broad equity indexes, shown in the upper left panel, rose more than 7 percent on balance, adding to the sizable recovery since the end of the first quarter. Corporate bond spreads, the upper right, edged down further, leaving them dramatically improved from their levels earlier in the year.

The gains over the past six months owe primarily to a more optimistic assessment of the economic outlook and a perception that the downside risks to growth have diminished. Indeed, as captured in our primary dealer survey in the middle left panel, the upward revision in the expected path of GDP growth from earlier in the year has been substantial. In addition, respondents also indicated that the downside risks around the expected growth path diminished notably over this period. This shift has reduced the amount of uncertainty that investors see in risky asset prices, as indicated by the relatively low levels of implied volatility on equities, shown to the right.

The gains in asset prices have been so dramatic that market observers have begun to wonder whether the markets have become too frothy, with some pointing to the extensive liquidity provided by the Federal Reserve as a contributing factor. By many metrics, however, asset valuations do not look too extended. The Board staff's measure of the equity premium, shown in the bottom left panel, is still high by historical standards. Likewise, by many measures, corporate yield spreads still look relatively high, taking into account the outlook for defaults. As shown in the bottom right, expected corporate defaults have fallen substantially since earlier in the year, which likely explains a considerable portion of the narrowing of corporate yield spreads.

Overall, risky asset prices have come a long way over the past six months, but so has the economic environment that they reflect.

In contrast to the more accommodative conditions in financial markets, banks continued to restrict credit to private borrowers. As shown in the upper left panel of exhibit 2, the volume of private loans at commercial banks (the dark blue line) has declined sharply. This decline has not been driven by a lack of available funds, as deposits (the orange line) have risen sharply and other sources of funding have become more readily available. In fact, banks have been accumulating Treasury and agency securities (the light blue line) over this period. However, they have less appetite for adding credit risk to their portfolios, as they continue to repair their balance sheets and face additional loan write-downs going forward.

Part of the decline in bank credit also reflects weaker demand. The business sector as a whole has little need to raise new funds, and net borrowing by the sector has been negative in recent months. In addition, firms with access to the market have shifted towards corporate bonds as a source of financing. This shift can be seen in the

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

amount of high-yield debt that has been issued since the first quarter, the upper right panel. The pattern for consumer credit is similar in some regards. Overall, consumer credit is contracting sharply, despite the issuance of a decent volume of consumer-related ABS. As shown in the middle left panel, ABS issuance reached $38 billion in the third quarter, near its pace from the previous quarter.

Activity in the ABS market has been supported to a great extent by the TALF, with nearly all of the ABS deals in the third quarter brought to the market through the TALF. However, there are signs that dependence on the TALF is beginning to wane. Most notably, even though most issuance is TALF-eligible, the amount of that issuance that is actually financed through the facility has been declining, a sign that private credit markets have improved enough to make TALF financing relatively expensive for some borrowers. At the September subscription, for example, only $6 billion of the nearly $17 billion of ABS issued ended up being financed through the TALF.

The better financing conditions and the greater willingness of investors to take risk have led to a further decline in ABS spreads, shown in the middle right panel. Spreads for AAA-rated consumer ABS have returned to levels not seen since the middle of last year.

Spreads also narrowed on outstanding CMBS, the bottom left, despite the ongoing worsening in the outlook for the commercial real estate sector. The improvement in CMBS has been very much tied to government support programs, as the PPIP and the TALF have led market participants to anticipate greater demand for these assets. The nine PPIP funds are in the process of raising capital and should begin purchases of assets later this year, and the TALF has now included three subscriptions covering legacy CMBS assets, financing over $4 billion of purchases. In addition, a recently announced change by Treasury to the tax treatment of CMBS workouts seemed to provide a further boost to their prices. Unfortunately, as shown to the right, issuance of new CMBS remains completely shut down, and the TALF has yet to fund any new-issue CMBS. Thus, the commercial real estate sector faces a very difficult credit environment going forward.

Despite the broad increase in risky asset prices, Treasury yields moved lower over the intermeeting period. As shown in the upper left panel of exhibit 3, Treasury coupon yields declined 15 to 30 basis points, on net. The most important sources of the decline in longer-term rates, according to our dealer survey, were a decline in inflation expectations, a reduction in upside inflation risks, and strong demand from foreign official institutions. Consistent with those responses, forward break-even inflation rates, shown to the right, moved down over the intermeeting period. Investors also see less interest rate risk, as suggested by the implied volatility measures shown in the middle left panel, which have fallen notably from their elevated levels over the summer. The perceived reduction in upside inflation risk and the decline in interest rate volatility may have contributed to a narrowing of the term premium embedded in longer-term yields.

Investors also apparently marked down the expected path of monetary policy, as the substantial slack in the economy and other favorable inflation news supported the view that the Fed would remain on hold for an extended period. As shown in the middle right panel, futures prices now suggest a later start to policy tightening. That brings the market pricing closer to the results from our dealer survey. As shown in the bottom left, most survey respondents do not expect the tightening to begin until the third quarter of 2010 or later.

The FOMC's decision to taper its purchases of Treasury securities, announced at the last FOMC meeting, was well received by market participants. This approach is widely seen by investors as a prudent exit strategy, and the announcement did not prompt any response in Treasury yields. At present, the Desk has completed $289 billion of purchases, and it plans to wind down its remaining purchases over the next five weeks, as shown in the bottom right panel, while still reaching a cumulative purchase total of $300 billion.

The exit from the agency debt and MBS purchase programs could prove more challenging, however. As shown in the upper left panel of the next exhibit, option-adjusted MBS spreads over Treasury yields remain unusually tight. In our view, Federal Reserve purchases have had a substantial effect on MBS rates, partly accounting for this low level of spreads. Market participants seem to agree with that assessment. As shown to the right, the responses to our dealer survey indicate that the purchase programs are seen as pushing down the current-coupon MBS rate by a significant amount, with an average response of about 60 basis points. However, it is worth noting that only a subset of respondents chose to provide such estimates, and the responses vary over a wide range.

Given these effects, some observers are concerned that the MBS rate will rise sharply as the Fed's purchases come to an end. The extent of these concerns should depend on one's views about how the purchase programs affect the markets. As we have highlighted in recent memos, the effect on market interest rates could come primarily through the stock of assets purchased, consistent with a portfolio balance effect. Under that perspective, even an abrupt end of the purchase program would not create market difficulties, as the stock of assets held outside the Fed would not change discretely. However, we have also highlighted the possibility that the flow of purchases could have some effect on rates due to various market imperfections. In that case, one might be concerned about how the market would adjust to a sharp drop-off in asset purchases by the Fed.

To gauge the scope of these different effects, we asked the respondents to our dealer survey about their views on how the Fed's asset purchases affect the market. The answers did not exactly settle the issue: In rough terms, about one-third of the respondents said that the effects arise primarily through stock effects, one-third said primarily through flow effects, and one-third said through both. [Laughter.] Moreover, in quantifying the effects of the purchase programs, most respondents saw the effects identified in the upper right panel as either partly or fully diminishing over the six-month period after purchases end, consistent with the presence of some flow effects.

Given the responses from the survey, it may be prudent for the FOMC to take an exit approach that is robust to the possibility of both stock and flow effects. This consideration was the basis for the recommendation that the staff made at the last FOMC meeting to taper the pace of purchases gradually as the programs come to an end. For this meeting, we provided a memo with more details about potential paths for the purchases of MBS and agency debt.

The strategy highlighted in the memo is to taper MBS purchases beginning soon after the current FOMC meeting, with the intention of finishing the purchases by the end of the first quarter. One potential path under this strategy is shown by the light blue line in the middle left panel. This approach would give the market time to adjust to the declining presence of the Fed and to allow new purchasers of MBS to crowd in and replace the Fed, which might smooth any interest rate response associated with that process. Another potential benefit is that it would allow the Desk to start letting up on the gas pedal immediately, which could help to address any strains on market functioning arising from our current pace of purchases, although our impression is that market liquidity over the past month or two has been decent even at our current rate of purchases.

The FOMC could consider an even longer tapering period that lasts through the second quarter, as shown by the red line. However, this would involve a steeper drop in purchases today, which would risk prompting some backup in mortgage rates in the near-term. The Desk does not believe that the longer tapering period is needed for facilitating the market adjustment or for ensuring market liquidity. Hence, any decision to move in this direction should be based on other considerations, such as the optimal amount and timing of the stimulus that policymakers desire.

The memo also made a recommendation for tapering agency debt purchases. The green line in the panel to the right shows that the pace of agency purchases would have to pick up considerably to reach the $200 billion limit by year-end. The current pace of purchases is already causing some strain on market functioning, so such an increase is not advised. An extension of the program through the first quarter would allow the Desk to get to the $200 billion limit (the red line), though the amount of tapering would be limited under that approach. Alternatively, the Desk could aim to reach $175 billion of purchases through the first quarter, which would allow a decent amount of tapering (the blue line). One possibility is to allow the purchases to end up somewhere between $175 and $200 billion, depending on how market conditions evolve.

The market effects of an announcement on tapering will also depend on whether market participants make any inference about changes to the total size of the programs. In particular, there is some risk that the announcement of a slowdown in the pace of purchases could be interpreted as a sign that the total size of the program is being reduced. This risk may be particularly acute when the program size provides flexibility in that direction, as is currently the case with the “up to” language. When the tapering of Treasury purchases was announced, the FOMC decided to drop the “up to” portion of the targeted amount, which provided the markets with clarity about the total size of the program and avoided this risk.

As shown in the bottom panels, our dealer survey suggests that market participants expect the Federal Reserve to reach the full $1.25 trillion limit for MBS purchases. That view is consistent with what the Desk has heard in conversations with a broad set of traders and market analysts. The survey also indicates that agency debt purchases are expected to reach the full $200 billion limit, although discussions with traders indicate that this view is not held as uniformly or with as much conviction. In both cases, respondents expected purchases to continue into the first quarter.

The ongoing purchases of securities have now begun to outpace the decline in balances at the Fed’s liquidity facilities, as shown in the upper left panel on the last page, causing the size of the Fed’s total balance sheet to drift higher. We expect this trend to continue, with the balance sheet projected to grow from its current level of $2.1 trillion to a peak of $2.4 trillion by June 2010. This process will continue to add reserves to the banking system. In addition, the drawdown of the Treasury’s SFP balances from $200 billion to $15 billion over the next six weeks will boost the amount of reserves even further. Overall, based on these developments, the level of excess reserves is likely to increase from its average of around $850 billion in the current maintenance period to nearly $1.2 trillion by the end of the year.

I will conclude my briefing by describing recent developments in short-term funding markets and the associated effects on lending through our shorter-term liquidity facilities. The rates at which some of the largest financial institutions can obtain unsecured credit have fallen impressively, as indicated by the LIBOR–OIS spreads shown in the upper right panel. The spread for the three-month maturity point has dropped all the way to 12 basis points—a level that was seen as normal ahead of the financial crisis. This improvement reflects greater confidence in the soundness of the financial system, a greater willingness to extend credit, and a gradual reduction in borrowers’ demand for funds. For similar reasons, the market for borrowing by nonfinancial firms has also improved, as shown in the middle left by the tight spreads on commercial paper.

However, while some firms face few funding constraints, others reportedly have much less access to the market. Indeed, even in the LIBOR panel, there remains some degree of tiering in the pricing of credit across borrowers, and anecdotal evidence suggests that such tiering is much more extensive for financial firms outside the LIBOR panel.

In terms of secured financing, the repo market is generally functioning well.

Repo volumes have stabilized after the steep decline that began late last year, and bid–asked spreads on many types of transactions have improved considerably from the high levels reached during the crisis. However, there is now much more differentiation across types of collateral. As shown in the middle right panel, haircuts in the repo market widened sharply for lower-quality collateral during the crisis and have remained very disperse. This type of differentiation is expected to persist to some degree.

Overall, the financial crisis has caused some lasting changes to the way short-term funding markets operate, with greater differentiation across both borrowers and types of collateral. Nevertheless, market participants seem to have adjusted to these changes, and access to short-term funding has been improving for many borrowers.

This improvement has been sufficient to reduce the usage of the Fed's liquidity facilities by market participants, as most facilities were priced to be attractive during periods of financial stress but uneconomical during normal periods. The amount of credit provided by these facilities, shown in the bottom left, has shrunk dramatically from over $1.5 trillion early this year to less than $350 billion today—a decline that has spanned all of the facilities. This decline indicates that the automatic exit strategy that was built into the design of these facilities has worked well.

It is important to note, however, that these volumes might not be on a simple glide path to zero. The table to the right shows the number of firms that remain in the facilities, as well as the number of borrowers that have continuously relied on the facilities since June. The Fed is likely to face an adverse selection problem in which firms with limited outside financing options prove the most challenging to push out of the facilities. Federal Reserve staff has begun to engage those firms remaining in each facility in discussions about their plans for exiting the program in order to ensure the least disruptive transition from these facilities once they expire.

That concludes my prepared remarks.

CHAIRMAN BERNANKE. Thank you very much. Questions for Brian? Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. Brian, as you were discussing panels 27 and 28, you made reference to some lasting changes in some of the credit markets. Can you specify a bit which you expect to be lasting and which you expect to continue to improve?

MR. SACK. I can. There's a lot of focus on the LIBOR–OIS spread, which seems to give the impression that the market has completely returned to previous practices. I wanted to present some evidence suggesting that that's not the case, but rather that the market does look different today from the way it looked several years ago. In particular, as I said in the remarks, there's just much more differentiation across types of collateral and, to some degree, across types of borrowers. Those are lasting changes, not only in that they have persisted to today, but also in that we expect them to persist, at least to some degree, indefinitely, as the market moves towards more reasonable pricing and a more reasonable structure going forward. It makes sense. There certainly should be a good deal of differentiation across different types of collateral. For example, some of the collateral listed in this chart is riskier—it's harder to put a price on it, so you don't know the value of the collateral, so, certainly, the idea that the market would require a haircut for that kind of collateral seems reasonable. That was the point. We see those changes as likely to persist, to some degree at least, going forward.

MR. TARULLO. They're not so much structural changes, though—you're anticipating that, as things continue to normalize, there won't be some sort of a reversion to the way things were before the crisis?

MR. SACK. Correct. But I think there's a possibility that we'll see structural changes as well. For example, a working group has been formed to look at the triparty repo market and some of the credit issues that arose in that market during the crisis. In the end, depending on what the solutions are, structural change could also affect pricing in these markets.

MR. TARULLO. Okay. Thanks.

CHAIRMAN BERNANKE. President Evans.

MR. EVANS. Brian, my question is just out of curiosity about something I've heard you say a couple of times. Why do dealers have different opinions on the Fed's likely follow-through on our purchases of agency MBS versus the agency debt? I have read commentaries and we've taken questions on whether or not we'll follow through on MBS, but I haven't heard the same about the agency debt.

MR. SACK. I think there's less conviction that we'll follow through to the full limit on the agencies, and that's primarily because there's a recognition by market participants that the pace of purchases is causing some strain in the market. And it's also because the pace of purchases is not sufficient to get us to the $200 billion limit by the end of the year. You can see that in chart 22—we'd need a pretty sharp increase in the pace of purchases to get to the mandated total. So I think the inference that investors have drawn is that the Committee is less committed to getting to that total on the agency debt side than it is on the MBS side.

CHAIRMAN BERNANKE. President Hoenig.

MR. HOENIG. I'd like to follow up on that, Brian, and anticipate, perhaps, a bit of tomorrow's discussion. Looking at these spreads and where the market is heading, what is the likely reaction to our saying that, instead of going to $1¼ trillion we are going to $1 trillion for the MBS purchases, and we're going to taper it so we end this at the end of the year, anticipating that the economy is recovering and therefore we have to begin to think about our exit strategy. I know a bit of uncertainty about this may be out there, and I'd like to get your sense of how much turmoil was circulating around that possibility and what the effect would be.

MR. SACK. At this point, I think that outcome would likely prompt some backup in MBS rates. It's difficult to gauge the magnitude of that increase, but it wouldn't be surprising if it were on the order of, say, 15 to 30 basis points, something like that. In the past, the staff has looked at a variety of evidence and used rules of thumb suggesting that something like $100 billion of a surprise—in any purchase program—could be worth something like 6 to 10 basis points on ten-year yields. So that estimate would be consistent with those metrics. I think it's important to realize that market participants see a sizable effect today. They seem to have a pretty strong conviction that the program will go all the way to $1.25 trillion. So those two things mean that that announcement would be a surprise.

MR. HOENIG. Given those basis points, and given the fact that you would have, then, time following that, are we talking about a bad thing, necessarily, given where the market is and that we're in the process of shifting away from our having such a dominant role? In other words, do you think that the action would be disruptive to the economy more broadly in terms of its effect on the market? Now, if it lasted, that would be one thing, but if it were temporary, that would be another thing, given that the market may begin to work again.

MR. SACK. I think it wouldn't necessarily be disruptive to the market, at least in any sustained sense. Obviously, it would be a surprise upon announcement. There would be some adjustment, but presumably the market would reprice and begin to function just fine. I think the broader question of whether it's a good thing is an issue for the FOMC. It would mean a higher cost of housing and, obviously, the associated effects on the strength of the economy.

MR. HOENIG. Fair enough. Thank you very much.

CHAIRMAN BERNANKE. Vice Chairman.

VICE CHAIRMAN DUDLEY. I just want to amplify on Brian's answer. First, I think the effect would be 15 to 30 basis points at a minimum, because by the end of this week we're going to have done about $895 billion of agency MBS purchases. So to cap it at a trillion means you are only doing $105 billion as opposed to $355 billion. So it's a pretty sizable discrete difference. Second, the market would take it as an independent signal about how concerned or unconcerned the Fed was with the economic outlook. They probably would also pull forward the timing of Fed tightening. So there'd probably be a separate channel in terms of the effects on yields. I think Brian's 15 to 30 basis points is conservative, if you add those two effects together.

CHAIRMAN BERNANKE. How does that match up? The dealers thought—what was it, about 50 or 60 basis points from the end of the program?

MR. SACK. They see the effect today as 60 basis points.

VICE CHAIRMAN DUDLEY. You're pretty close to ending it if you only have $105 billion to go.

CHAIRMAN BERNANKE. Okay.

MR. LACKER. Mr. Chairman?

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. Are you talking about spreads or yields? And how would it affect the Treasury market?

MR. SACK. I was talking about yields. The dealer survey question is about yields. It's true that we look at spreads, as indicated in the chart in the briefing. We look at spreads as a useful measure to look for those effects, but I think ultimately we care about the effects on yields. So we were careful to phrase the dealer question to be about yields and not spreads. I think you would assume some of that effect passes through to Treasuries, but, obviously, not one for one.

MR. LACKER. But wouldn't the Treasury view this as the Treasury market—damp the effect on yields, right? I mean, if the spreads don't move as much.

MR. SACK. We're talking about an effect on MBS yields. So whether it's 15 to 30 basis points or up to 60 basis points, we're talking about the effect on MBS rates. I would expect some portion of that to pass through to Treasury yields and to yields more broadly.

CHAIRMAN BERNANKE. Other questions? Let me just recognize you, President Bullard. But let's not get completely into the debate at this point. [Laughter] We're still in Q&A mode. President Bullard?

MR. BULLARD. I just want to understand exhibit 4 and number 19, the MBS option-adjusted spread. You cited this figure as evidence that there was an effect on the purchase program, and I just want to understand how we should think of this. If you look at the left part of the graph—from August 2000 to August 2003—that would be a period of recession and very slow economic growth following the recession, and the spread fell maybe 80 basis points, just eyeballing it. In the current episode, you've got a much more severe recession, and the spread fell maybe 100 basis points. There was no asset-purchase program in the earlier period, and, if we control for recession effects, maybe there wouldn't be very big effects from the asset-purchase program. Or do we not want to interpret it that way?

MR. SACK. When we modeled MBS spreads—and we've used a variety of models—some of them included other credit spreads. There does seem to be some co-movement between MBS spreads and other credit spreads. I think that was probably the case in that earlier period, and, obviously, we see this pattern of widening into the crisis and then improving in other markets as well. I think the difference is that the improvement in the MBS spread has been so sharp and has corresponded so strongly with the purchase programs that we don't think this narrowing just reflects some improvement in credit and some cyclical effect. We think it goes well beyond that.

Having said that, I would like to say it is hard to determine how far beyond some sustainable level the spreads are. Here, I'm showing a measure relative to Treasuries. This spread is negative. That looks anomalous by historical standards, so you could look at this chart and eyeball it and say, "Well, maybe the spread is 50 basis points below what's sustainable." But if we measure it relative to swap rates, it doesn't look quite as extreme. I would say relative to swap rates it looks like MBS are maybe 25 basis points beyond fundamentals.

Our general conclusion is that we believe the purchases have had a very large effect on the spreads. Starting from a disrupted market, I think it's very fair to conclude that the purchases have collapsed those spreads more than 100 basis points. The harder question is: Have they collapsed them to normal or through normal, and, if through normal, how far? Based on the range of models we're estimating trying to answer this question, something like 25 to 50 basis points looks like a reasonable guess.

CHAIRMAN BERNANKE. A two-hander, President Lacker?

MR. LACKER. No, it was a one-hander, Mr. Chairman.

CHAIRMAN BERNANKE. One-hander, okay. [Laughter] We'll go one-hander to President Fisher.

MR. FISHER. Well, if you want to continue on the mortgage-backed securities, mine is on another subject, so perhaps President Lacker would like to go.

CHAIRMAN BERNANKE. I'm sorry. Okay. President Plosser, yes.

MR. PLOSSER. Two-hander.

CHAIRMAN BERNANKE. Two-hander, okay.

MR. PLOSSER. I'd like to go back to this estimate of the effects of cutting back purchases from $1¼ trillion to $1 trillion. I'm looking at exhibit 4, chart 20. The effect on yields is somewhere—let's just take a modal number—between 50 and 75 basis points. I thought the argument had been that it is the stock that matters, not flow so much. If we cut from $1¼ trillion to $1 trillion, that's one-fifth of the total stock. If you do a back-of-the-envelope calculation—

divide 75 basis points by five—that would suggest somewhere between 10 and 15 basis points, not somewhere between 25 and 50 basis points. So I'm not quite sure I understand the argument that by cutting the program by one-fifth we're going to take away as much as half or three-quarters of the basis point cut that the dealers seem to think there has been. Could you clarify that for me?

MR. SACK. Well, there is a range of interpretations. Let's say we assume half the effect comes through stock, and half the effect comes through flow. In this case, if the total effect is 50 to 75 that means, say, we have 35 and 35. You're right about the stock effect not changing dramatically. The expected stock effect is shifting, but if we take your one-fifth, we're talking maybe 10 basis points, max. But, of course, the flow effect is going to diminish as well.

When we look at these responses, 50 to 75 basis points, and at how these respondents answered about how the effects would evolve going forward, they essentially almost uniformly assume that the effect would diminish from now to six months after the conclusion of the purchases. So, implicitly, they were putting a lot of weight on flow effects in those responses. We didn't push too hard on that because it's a small number of responses. We didn't really dig into it very much and follow up with them on why they had so much reversal. But I think when we look at the dealer survey as a whole, it suggests that flow effects are a big part of this.

CHAIRMAN BERNANKE. Would you like to finish?

MR. SACK. No, that's okay.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. Mr. Chairman, this is sort of a statement disguised as a question, but I would still like to get your reaction, Brian. It has nothing to do with mortgage-backed securities, which I realize is the focus of a lot of this meeting. It goes back to your first graph on equity prices. We have had—going back to 1923, 1924—15 recessions before the current one. According to the data, if my memory serves correctly, from the trough of the equity market as measured by the S&P 500 or its equivalent, to when we emerge from recession, the average rally has been about 22 percent. Looking at chart 1, if you assume that we exited the recession in July, roughly, we have had the most significant equity market rally in history; this even outperforms 1929 to 1933.

I am continually troubled by the issue of top-line versus margin enhancement and bottom-line growth. I ask this question because I think it is very important. We make almost a linear assumption in our baseline case of pretty positive equity market numbers going forward, after having had what is, historically speaking, the greatest stock market rally coming out of a recession in history. That is around 48 percent. Now, from your standpoint as a market operator, or as someone who is more attuned to the markets than certainly I am, and I think the rest of us are, can you continue this process without top-line growth? I'm just curious as to what your concerns are, if you have them, because, again, the baseline growth model that we have factors in some pretty healthy equity market numbers going forward. So I'm just curious from a Desk standpoint what your feelings are about this. And I realize this is guesswork—but still.

MR. SACK. Well, I think we've had a very sharp rally reflecting the size of the revision to the economic outlook and the very substantial shift in the perceived risks around that outlook. So, yes, it is big by historical standards, but there is a very extreme update to the outlook among market participants. The question is: Going forward, can you sustain that pace? The answer is: Definitely no. Going forward, the equity market gains are going to be governed by changes in earnings revenue and by changes in the valuation or the equity premium that was shown in the chart. On the earnings revenue side, earnings have been good, but a lot of that good news has come from cost-cutting. We don't have a lot of top-line GDP growth, so it will be hard to produce a robust enough earnings environment, given the GDP forecast, for that to be the engine of ongoing substantial equity market gains. I think a bigger question is the equity premium that I showed in the bottom left panel. There we have scope for further narrowing, so that could be one source of ongoing gains. But, as you can see, we've already narrowed a good amount, so even there we're kind of losing capacity.

But keep in mind that we're going up very rapidly. We had a 7 percent gain this intermeeting period, and for a while I was describing that as underperformance relative to the previous intermeeting periods. So I think, of course, this can level out. My main point was not that we should expect to sustain these increases, but that these increases have not necessarily set us up for some kind of a reversal, because the increases have not pushed valuations beyond what looked reasonable under some models.

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. Thank you. When you announce individual auctions that you hold to buy Treasuries or MBS or agency debt, you don't announce the amount, do you?

MR. SACK. That's correct.

MR. LACKER. With regard to the total program, we talked about the value of clarity. I was wondering why you don't announce the amounts when you do individual auctions, especially if there's a flow effect.

MR. SACK. We try to retain some flexibility for varying the flow of purchases in response to market conditions and in response to the kinds of offers that we receive. That's the main answer. I think it would be problematic if the market had no sense of what our pace of purchases was going to be, or what kind of target we were trying to get to. But they know all of that, so we just afford ourselves some ability to vary over time in response to market conditions.

We do exercise discretion in terms of how much to push the markets on any given day, especially in the MBS program and in the agency debt program. We will have a target for purchasing, currently around $25 billion a week for MBS, but what we actually realize in a given week depends on the market conditions that we see and how much we seem able to buy without causing problems in market functioning. So the main answer is that we don't commit to a schedule of purchase amounts, because we want to retain that flexibility.

MR. LACKER. Okay. It sounds like the value of flexibility to you exceeds the value that providing clarity to market participants on that day would provide.

I have another question, if I could, Mr. Chairman. Brian mentioned strains in the agency debt market. I would be interested in learning a little more about sort of what observationally that looks like.

MR. SACK. First, let me just clarify one thing. We don't announce in advance paths for the size of MBS purchases. When we do Treasury operations, we do announce the size the day before the operation is conducted.

MR. LACKER. For Treasuries.

MR. SACK. But we don't pre-commit to the size—that's what I meant. In the agency market, a lot of the feedback is anecdotal. We look at trading volumes, we look at bid–asked spreads, but we also rely a lot on discussions with market participants. And we see a number of things. For example, for a time we weren't buying on-the-run issues. We were only buying off-the-run issues. And what we saw was actually a reverse on-the-run premium develop, in the sense that the on-the-run yields were actually higher than all of the off-the-run yields.

So we certainly look at this market and say, "Well, our purchases are really pushing prices a lot. They are taking a lot of the floating supply in the market." And we hear back from dealers that they are affecting dealers' willingness to short issues out of fear that there is not enough floating supply to cover those positions. So we look at a variety of evidence.

This isn't too controversial. We are very big in that market. I think in the last briefing I indicated that our purchases were something like ten times the net issuance in the agency sector that we expected over the program. So we are very big relative to issuance and the size of that market, and it's quite clear that that's causing some problems for marketing functioning.

MR. LACKER. Do you think the market is better off with our intervention? Do you think we're accomplishing other things that outweigh the detrimental effect of these strains?

MR. SACK. For the Treasury purchases and the MBS purchases, I would say the answer is yes, I think we've had a substantial effect on market interest rates. Assuming your objective was to lower market interest rates and simulate economic activity, I think those programs have been very successful. It's less clear how the agency debt purchase program has led to those effects. Obviously, there are indirect channels through affecting the agencies' ability to finance themselves and maybe their purchases of mortgages. But they're not expanding their balance sheets, so I would say the benefits of that program are less clear to me.

CHAIRMAN BERNANKE. Any other questions for Brian? (No response.) Okay, seeing none, I'm going to turn to Bill English, who is going to give the first of three briefings on the balance sheet, reserve management, and associated issues, and then we'll take questions for all three briefings at the same time. Bill.

MR. ENGLISH.[2] Thank you very much. I'll be referring to the handout "FOMC Briefing on the Implications of Higher Reserve Balances." As shown in the top left panel of your first exhibit, the aggregate stock of reserve balances has increased from

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

about $20 billion prior to the onset of the financial crisis to about $850 billion recently, and it is projected to peak at about $1.2 trillion during the first half of next year before gradually trending lower. This very high level of reserves raises two potential concerns, noted to the right. First, high levels of reserve balances could, by increasing banks' assets, put downward pressure on their regulatory leverage ratios, leading them to pull back further from lending or cut purchases of securities, with adverse consequences for the economy. Second, and conversely, as the economy improves and banks become more comfortable with their capital and liquidity positions, they could try to take steps to reduce their reserve balances. Because the banking system as a whole cannot reduce reserve balances all that much, banks' efforts to do so could put downward pressure on some interest rates and boost bank lending. The result could be an increase in monetary stimulus at a time when the economy may already be expanding briskly and inflation could be at or above its desired level.

As noted in the middle left panel, the first of these concerns was the subject of a staff memorandum and briefing at your June meeting. The staff's assessment at that time was that banks appeared to have sufficient capital to absorb the projected increase in reserve balances without putting undue pressure on their leverage ratios. Since that time, the staff has marked down substantially the anticipated increase in reserve balances, reflecting unexpectedly large paydowns of Federal Reserve lending programs, a smaller assumed size of the TALF program, and the more gradual pace of MBS purchases now projected. This revision reinforces the results presented by the staff in June. But, I should note that we do not know how large a capital buffer individual banking organizations want to maintain over regulatory norms, so it's possible that elevated levels of reserves could yet constrain some banks' activities.

As noted to the right, to obtain further information on the second concern, staff consulted four banking organizations over the intermeeting period, including two large U.S. commercial banks, one key processing bank, and one large U.S. branch of a foreign banking organization. These four institutions currently account for 35 percent of aggregate reserve balances and 17 percent of total bank credit. Of course, this is a small sample, and the institutions are not typical of the broader banking universe. These firms were chosen because they represent a range of institution types and because their reserve balances are very high, suggesting that their plans could shed considerable light on the demand for reserve balances going forward. The consultations covered three broad areas of balance sheet management: The reasons for the firms' current high reserve balances, their possible responses to further increases in reserve balances, and their intentions regarding an eventual return to lower levels of balances.

The most notable reasons the banking organizations provided for their own elevated balances are listed in the bottom left panel. All of the institutions pointed to substantial inflows of funds last fall, following the failure of Lehman Brothers and the strains in the money market mutual fund sector. Three institutions also indicated that risk-adjusted returns on alternative assets were not attractive, and that loan demand has been weak. In addition, the large commercial banks noted a desire to hold high balances as a liquidity buffer against the possibility that conditions in funding markets might deteriorate again.

As noted to the right, we next asked how the institutions might respond to a further inflow of reserve balances to their institutions. The large commercial banks indicated that their balances could rise somewhat further before they would take actions to reduce them. By contrast, the processing bank and the foreign branch both reported that they would take steps to offset any addition to their reserve balances. The institutions generally reported that the actions they would take to offset an increase in reserves would include running off some managed liabilities and purchasing safe short- and intermediate-term securities. The banking organizations pointed specifically to Treasury and agency obligations and other sovereign and sovereign-guaranteed securities, such as FDIC-guaranteed bank bonds. None of the banks suggested that they would increase their lending to reduce reserve balances in this situation.

The top left panel of your next exhibit summarizes the four banking organizations' plans for reducing their reserve balances over time. Each firm expected that these reductions would leave the desired level of balances well above pre-crisis levels, reflecting, particularly for the processing bank and the foreign branch, the impact of the payment of interest on reserves, and for the two large commercial banks, a general increase in concern about access to liquidity during periods of stress.

The four institutions suggested very different timing for their anticipated reductions in reserve balances. The processing bank noted that it had already begun trimming its balances, and it planned to complete its adjustment by the end of the year. One of the two large commercial banks planned to make its adjustment next year and the other in 2011. The foreign branch suggested that there likely could be no significant reduction in its reserve holdings until the Federal Reserve began cutting the aggregate supply of reserves. It explained that its balances were primarily determined by volatile flows of short-term funds from its customers, and it had little ability to influence such flows without disrupting existing customer relationships.

When they felt the time had come to begin reducing their reserve holdings, the banking organizations planned to make adjustments to both the asset and liability sides of their balance sheets, as listed to the right. On the liability side, they planned to pay down their borrowings in wholesale funding markets and allow some large time deposits to run off. On the asset side, they would increase lending in interbank and other wholesale markets and increase purchases of safe short- and intermediate-term securities. Only one of the institutions said that it might ease its credit terms to boost lending, and none reported an intention to ease credit standards.

As noted in the middle left panel, there is some tension between our projected increases in reserve balances and the banks' stated expectation that their demand for such holdings will fall over coming years. Individual banks are likely to take actions to reduce their reserves, but, as I noted earlier, they cannot, in aggregate, reduce the stock of reserve balances all that much. Thus, the main result of the banks' efforts is likely to be changes in the returns on various assets and liabilities that leave the banking sector content to hold the existing stock of reserve balances. In particular, rates on shorter-term funding instruments are likely to fall relative to the rate paid on reserve balances, while yields on securities that are viewed as relatively close substitutes for reserves—particularly short- and intermediate-term Treasury and agency securities—should decline somewhat from their already low levels. These changes will then be arbitraged into the yields on other assets as well. By contrast, the consultations suggest that banks are unlikely to ease their lending standards significantly in order to boost loan growth. Nonetheless, as the economy recovers, the demand for loans from creditworthy firms and households will presumably pick up, and risk spreads may well narrow as the outlook improves. The result is likely to be a recovery and expansion in loans at banks that largely stems from factors other than reductions in desired reserves holdings.

As noted to the right, these potential effects of very high reserve balances are the expected consequences of quantitative easing. However, the size of such effects on interest rates and the aggregate economy is quite uncertain. Evidence from the Japanese experience suggests that they may be fairly small. Rates on interbank deposits and short-term securities are already quite low—indeed, bill rates are below the rate paid on reserve balances—and so are not likely to fall all that much further, given that we are at present operating so close to the zero bound. Moreover, these effects may emerge only gradually as institutions decide on a bank-by-bank basis to reduce their reserves demand. In addition, some banks' actions may be constrained by capital concerns. For these reasons, in the staff forecast the effects of elevated reserve balances are implicitly assumed to be quite small (though I should note that in the staff forecast the direct effects of the Federal Reserve's purchases of Treasury, agency, and agency mortgage-backed securities on long-term yields are estimated to be large).

To provide some background for the Committee regarding the possible macroeconomic impact of elevated reserve balances going forward, my colleagues in Research and Statistics and I constructed an alternative scenario using the FRB/US model. We started by assuming that the effects of elevated reserve balances on short- and intermediate-term interest rates are quite large—much larger than we believe is likely to be the case—and occur at the start of 2010. In particular, we assume a decline of 50 basis points relative to the baseline in interest rates at maturities of one to five years, accompanied by a downtick in longer-term interest rates, a modest decline in the foreign exchange value of the dollar, and a small rise in stock prices. Importantly, however, we assume that banks make no changes to their lending standards and terms. The lower interest rates boost household spending on durables, business spending on equipment and software, and housing investment through mortgage rates (primarily on ARMs), while the lower value of the dollar raises net exports. Adding up the pieces, as shown in the bottom left panel, the effect is to increase GDP growth by about 0.3 percentage point in 2010 and 0.4 percentage point in 2011, cut the unemployment rate by 0.3 percentage point by the end of 2011, and raise inflation just a bit. While these effects, which we believe are likely a significant overstatement, are not negligible, they do not greatly change the general contour of the staff forecast.

Of course, it is possible that this assessment of the effects of very high reserve balances is wrong—we're in a new world—and that the result will be a larger dose of monetary stimulus next year, as noted in the bottom right panel. For example, banks may prove far more willing to ease credit standards and terms than suggested by our consultations. However, some FOMC participants may see additional stimulus as potentially beneficial. In the staff forecast, the economic recovery is gradual, unemployment remains high through 2011, and inflation remains low. Thus, some additional stimulus might be helpful in fostering economic conditions that are more consistent with your dual objectives. On the other hand, very high reserve balances could undercut confidence in the Federal Reserve's ability to maintain price stability, contributing to higher expected and actual inflation. If very high reserve balances provide undesired stimulus or appear to be significantly boosting inflation expectations, then the Committee could choose to tighten policy sooner or more rapidly than it would have otherwise. Jim Clouse will now update you on the work being done to prepare the tools that might be employed in doing so.

MR. CLOUSE. Thanks, Bill. The staff has continued to develop reserve management tools—including term reverse RPs, a term deposit facility, and reserve collateral accounts—that, along with adjustments to the interest rate on excess reserves, should allow the Committee to raise the federal funds rate when it wishes to do so.

As discussed at the August meeting, the Desk could drain reserves by conducting term reverse RPs with primary dealers or other counterparties. The Desk will be prepared to conduct reverse repos on a sizable scale as early as a month from now, using Treasury and agency collateral and with primary dealers as counterparties. Staff is also working on two significant expansions of this basic program: the ability to do reverses against agency MBS and the inclusion of counterparties beyond the primary dealers.

The informal consultations with four financial institutions that Bill described, along with the Desk's conversations with primary dealers, indicate that there is considerable interest among dealers in participating in a term reverse RP program. However, the primary dealers note that their participation in the program would be limited by balance sheet constraints.

To some extent, such balance sheet concerns reportedly are connected with regulatory capital requirements. While the SEC's regulatory net capital charges for dealers explicitly exclude transactions with the Federal Reserve Bank of New York, regulatory leverage ratios may be an issue for those dealers that are part of bank holding companies. For these institutions, the financing of collateral reversed in from the Federal Reserve could have an appreciable impact on their leverage ratios at the consolidated bank holding company level.

Dealers have noted that in many cases balance sheet constraints also stem very importantly from internal guidelines regarding leverage; in part, such internal guidelines are based on the attention devoted to leverage in the analyses of credit rating agencies and other outside analysts. Staff continues to investigate ways to mitigate such concerns about balance sheet capacity. One avenue currently being explored is the potential for the Federal Reserve to participate in the Fixed Income Clearing Corporation, a step that might allow for netting of primary dealers' matched book repo transactions with the Federal Reserve and thereby avoid large increases in the size of their balance sheets.

Based on conversations with about half of the dealer community and the staff consultations with banking organizations, staff estimates suggest that the primary dealers in aggregate could take on $100 billion to $200 billion or so of reverse RPs. The apparent capacity constraint among primary dealers in conducting large-scale operations in reverse RPs puts a premium on expanding the list of counterparties beyond primary dealers. Primary dealers have been informed that additional counterparties may be needed for an effective implementation of this program. Work on this front is slated to start soon.

The Desk has made substantial progress in laying the operational groundwork for a reverse RP program, including contract negotiations, the development of automated systems, and settlement processes. Concerning contracts, the legal documentation to support triparty reverse repos is expected to be executed by the primary dealers and clearing banks later this month. The Desk has also negotiated agreements with the triparty banks on service levels and the general fee structure for triparty reverses. This agreement is also expected to be finalized in the coming days. Regarding automation and settlement, the Desk has tested the existing FedTrade system for use in conducting triparty reverse RPs. The Desk is in the final stages of preparing for implementation and should be ready to perform end-to-end testing with primary dealers, clearing banks, and settlement systems in early October. The basic version of the reverse RP program—triparty reverse RPs with primary dealers against Treasury and agency securities—will be ready to go by the end of next month. Work to expand the range of collateral and counterparties is ongoing and should be completed later this year.

Turning to the term deposit facility, the staff consultations with four banking organizations suggested that they could well be interested in participating in a term deposit program. We do not yet have a reading on small banks' interest. The amounts that institutions would be willing to shift from reserve balances into term deposits would depend on various factors, including the maturities offered and the interest rate paid on term deposits, particularly relative to the rate earned on excess reserves. The banks in our informal consultations indicated that they would want to hold more term deposits if there were some means by which such deposits could be utilized to meet an unusual liquidity demand, perhaps through an early withdrawal option or by allowing term deposits to serve as collateral at the discount window.

A staff steering group has been established to oversee four work streams associated with the term deposit facility—program design, legal documentation, governance, and implementation.

The design team is studying various aspects of posted-rate term deposit facilities, including appropriate pricing and maturity structures, and it is also considering the set of rules that should apply if the System elects to issue term deposits via an auction.

System legal staff is examining the legal basis for establishing term deposit accounts and is also considering the agreements between Reserve Banks and depository institutions necessary to support term deposit accounts.

The staff has also begun to discuss governance issues raised by both the posted-rate and auction-rate approaches. The key issue is ensuring that rates and quantities would be set in a way that ensures appropriate input from all Federal Reserve stakeholders.

The implementation group has, for some time, been developing and testing the computer code necessary to support a term deposit program. Using this code, DIs we to submit tenders through a web-based application. This new code will be deployed at the end of next month and can be activated when the facility is ready to be implemented. As noted in the August briefing, some lead time will be required to implement a term deposit facility, because DIs would have to request and receive electronic certificates to access the application. Our expectation is that about one month of lead time would be required to have several thousand depositories positioned to participate.

As discussed at the August meeting, reserve collateral accounts, or RCAs, would be new Federal Reserve deposit accounts designed to facilitate trading of fed funds on a collateralized basis. By reducing counterparty credit risk concerns, these new accounts might well enable sellers who utilize the accounts to obtain higher bids for the fed funds they sell.

The staff has surveyed two GSEs about their interest in using RCAs. Both are examining the option, and their internal staffs are reviewing the RCA as a new product. They will share the outcome of those internal reviews with Federal Reserve staff in the near future. The reviews are expected to yield a fairly rich set of information on those GSEs' likely use of RCAs.

RCAs are entirely new, and the staff is still in a relatively early stage of analysis for these accounts. We are waiting to hear back from the GSEs before determining whether to establish a steering group to oversee future work in this area. Internally, the RCA concept has been discussed with the System's Accounting Management Steering Group (AMSG). The AMSG viewed the concept as feasible and similar in some respects to the recent implementation of excess balance accounts. In addition, members of the Committee on Reserve Administration have reviewed the proposal. Brian will now continue the staff presentations.

MR. MADIGAN.[3] Thank you. I'll be referring to the handout labeled "Material for Briefing on Proposed TAF and TSLF Schedules." As noted in Brian Sack's briefing, conditions in short-term funding markets have improved somewhat further

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

over the intermeeting period. As a result, the relative attractiveness of the Federal Reserve's lending facilities has declined, given the penalty-rate pricing of most of those programs, and so usage of the facilities has continued to diminish. However, the Federal Reserve still needs to make explicit decisions about the amounts of credit offered under the two main auction-based liquidity programs, the TAF and the TSLF. As announced on June 25, the Federal Reserve has suspended schedule 1 TSLF and TSLF Option Program operations and has reduced the size and frequency of TSLF schedule 2 operations to one offering of $75 billion per month. The Federal Reserve also has reduced the offered amounts under the TAF in three steps so far, from a peak of $150 billion per auction to $75 billion per auction in September. Those reductions in TAF auctions have been determined and announced one month at a time, based on observation of auction results and assessments of market conditions.

However, the staff believes that it would be desirable at this stage to formulate and publish plans for the auction schedules and amounts to be offered over the period through January. These plans would incorporate a further reduction in liquidity support over that period while still providing assurance to market participants that the Federal Reserve will provide sufficient liquidity over year-end. By making its plans explicit, the Federal Reserve would help reduce market uncertainty and would provide market participants with sufficient time to arrange other sources of short-term funding.

The announced schedules should be designed to mesh with the Federal Reserve's overall plans for winding down its liquidity programs. As you know, most Federal Reserve liquidity programs are set to expire on February 1. However, the TAF does not have a fixed expiration date. Indeed, when the TAF was first announced in December 2007, the Federal Reserve suggested that consideration would be given to making the facility permanent and indicated that public comment would be obtained before any decision was made regarding the establishment of a permanent facility.

The staff recommends initiating soon the process of seeking public comment on a proposal for a permanent TAF. Subject to your comments and approval by the Board, we would describe several possible TAF structures in the request for public comment. Those possible structures could range from a deactivated facility that was on the shelf but ready for use if circumstances warranted to regular TAF auctions of a substantial volume of funds. Several intermediate alternatives could also be described. The notice would probably be published for a forty-five- or sixty-day public comment period. The staff anticipates that the Board would also seek input from Reserve Bank Boards of Directors. Based on the comments received, the Board would decide late this year or early next year whether to establish a permanent TAF.

Regardless of whether the TAF will become permanent, the near-term path of TAF operations has to be decided. The staff has developed proposed schedules for TAF and TSLF auctions for the next four months; they are shown on the last page of the package. Both of these schedules involve considerable reductions in offered amounts into January. As I'll explain, the TAF schedule could be part of a transition to zero, low, or still sizable auctioned amounts. The proposed TSLF schedule is designed to allow TSLF auctioned amounts to move down to zero by February, consistent with the current expiration date for that program.

As shown in the upper panel, the staff proposes that TAF auctions in the 28-day cycle, the unshaded rows, be held steady at their current level of $75 billion each through mid-January. The purpose of leaving those auction amounts unchanged for the next few months is to provide substantial assurance of the availability of adequate liquidity over year-end. The current cycle of auctions of 84-day funds, the shaded rows, would be modified in two ways. First, the terms would be reduced initially to 70 days and then to 42 days. The purpose of shortening the terms is to align the maturity dates with those of the 28-day auctions. And, second, the amounts of these longer-term auctions would be reduced from the current level of $75 billion to $25 billion in November, before those auctions are discontinued late this year. Beginning in December, the System would conduct only one auction per month, for 28-day funds. By mid-January, a maximum of $75 billion of TAF funds would be outstanding; TAF credit outstanding currently stands at just under $200 billion. Depending on the decision regarding a permanent TAF, that amount could subsequently be brought down to zero or phased into the schedule for permanent TAF operations.

Some policymakers have expressed a view that the minimum bid rate for TAF auctions should be increased from its current level of 25 basis points, equal to the interest rate on excess reserves, in order to provide a penalty for using the facility. In the staff's view, a significant penalty is inconsistent with an auction facility, and it would be incompatible with the effective operation of a permanent TAF. And with bid amounts in TAF declining steadily and below amounts being offered in the auctions, it is not clear that a penalty rate is currently necessary to discourage usage. Moreover, once offering amounts are reduced sufficiently, the auction rate should rise above its minimum.

The proposed TSLF schedule, shown in the lower panel, specifies that monthly auctions will be reduced in two steps from the current level of $75 billion to $25 billion by November. The offered amount would be held steady at $25 billion in December and January. The term to maturity of the December 3 operation is planned for 35 days so that the loans do not mature right at the beginning of January. TSLF operations would cease in early February with the maturation of the January 7 auction, consistent with the facility's already-announced expiration on February 1.

A draft press release is included in your package. That document sets out the proposed schedules and states that the Federal Reserve will soon request public comment on a permanent TAF. It also indicates that the Federal Reserve would be prepared to temporarily increase the sizes of TAF and TSLF operations or conduct additional off-cycle operations with terms that span year-end if needed to address transitory market strains.

Finally, I should note that we will need to coordinate adjustments to the TAF with possible changes to the swap arrangements with foreign central banks. Brian Sack's and Nathan's staffs will confer with foreign central banks to formulate plans for the eventual elimination of exposures under the current swap arrangements. A related issue, which we plan to raise for your consideration at the November meeting, involves the advisability of establishing a set of permanent swap lines.

That concludes the staff presentation. We would be pleased to respond to your questions.

CHAIRMAN BERNANKE. Thank you very much. According to the agenda, the sequence of the meeting goes as follows: First, questions for the staff; there will then be an opportunity for unstructured interaction on these issues; and then finally, of course, two full go-rounds. So everyone will have ample opportunity to express their views on all of these subjects.

Let's begin first with just questions for the staff. Are there questions? Vice Chairman Dudley.

VICE CHAIRMAN DUDLEY. I had a question for Jim. Obviously as we contemplate the agency debt and agency MBS purchase programs, the issues are related to our ability to actually have the sort of "suspenders" in place, in terms of reverse repo or term deposit facilities, to be confident that we can actually do that if we needed to. The reverse repo instrument, as you described, is a size constraint for the dealers. How confident are you that the reverse repo program can be successfully introduced to a broader set of counterparties? Highly confident? Not so confident? I think the answer to that question is relevant for thinking about our balance sheet size. Also, are there potential legal impediments, or is this just an operational issue?

MR. CLOUSE. I've had a number of conversations with Chris Burke and his colleagues—of course, Brian may want to comment on this as well—and I think that the perception is that it will be a challenge to pull in a lot of additional counterparties. One obvious lending group would be the money funds. You would like to have them participate—conceivably, even banks that are holding huge volumes of reserves might want to be lenders of cash against securities. So there are natural sets of institutions that you might want to target, but in order to get them into the system, you have to have legal agreements established with them—that takes some time, I have learned. And there are also all sorts of operational difficulties in setting up collateral arrangements and having the monitoring in place. There's a perception, at least, that you could get a substantial number of additional counterparties in place by the end of the year, but I think Chris and his colleagues at your Reserve Bank have their work cut out for them.

VICE CHAIRMAN DUDLEY. I guess what I'm asking is, over the longer term—you said nine months from now—could you drain a trillion dollars of reserves if you had to? Are you pretty confident you could do that? At the end of the day, that's really the key question.

Actually, there are two questions. One, do you think interest on excess reserves would be sufficient? I do, but I think other people would have some questions about that. So then the second question is, to guard against the potential risk of that not being sufficient, what are the "suspenders"? Then the issue is: Are you highly confident that you could get the "suspenders" up in operation eventually? I don't think year-end is necessarily that relevant, but if you told me that you couldn't get it up by midyear 2010, I would start to be nervous.

MR. CLOUSE: My own personal view, for what it's worth, is that the combination of reverse RPs and the term deposits could be very powerful nine months from now. The term deposit facility, in particular, could drain a huge amount of reserves; obviously, it depends on the rates that we're willing to offer. As for the reverse RPs, I think we could find a very large amount of lenders there, as well. So I think the combination of those two programs will put us in pretty good shape.

VICE CHAIRMAN DUDLEY. Thank you.

CHAIRMAN BERNANKE. President Rosengren.

MR. ROSENGREN. My question follows along the same lines; again, it's to Jim. In thinking about the term deposit facility, could we use the term auction facility apparatus to do the term deposit facility, because one way of thinking about the term deposit is as a reverse discount window loan, right? We already have an apparatus that has an auction for loans, so if we were going to use an auction format for deposits instead, it would seem like we already have an apparatus to do it, and it would deal with some of the questions about the permanence of the TAF, if it could go either way during times when we wanted either to push out a lot of reserves or pull in a lot of reserves. So, when you're thinking about the term deposit facility, are you thinking about it as being something like the term auction facility, or is it a very different structure?

MR. CLOUSE. I think one variation on it would be very much like the term auction facility in structure. The Committee could establish amounts that it wished to auction, take bids, and it would be very much like the TAF, just in reverse. We probably wouldn't use the existing technology, the program for submitting bids and receiving results and various spreadsheets that have been developed. It's not the most sophisticated automation, but Sherry Edwards and company have been working for about a year to develop the code in the Statistics and Reserves system to support an auction and to have all of the entries pass through to reserve accounting and to the Federal Reserve Banks' accounting systems properly. So I think on that dimension we're in very good shape for the term deposit program.

MR. ROSENGREN. Conceptually, that seems much easier than depending on the primary dealer system, if what we wanted to do was pull out a lot of reserves.

MR. CLOUSE. I don't like to view them as competing things. I really view them as kind of complementary, and it could be that both are very useful.

CHAIRMAN BERNANKE. Governor Kohn.

MR. KOHN. Thank you, Mr. Chairman. I have a question for Bill and a related one for Jim, and then a suggestion on the press release.

Here's the question for Bill. You put a lot of emphasis on downward pressure on short-term funding rates as these reserves came into play. In the good old days, we used to think of the deposit rate as the floor for market rates, because banks would be willing to arbitrage. I was wondering, as market conditions improved, bank capital increased, and they got more confident, whether they wouldn't be willing to do more arbitrage and put upward pressure on short-term rates.

MR. ENGLISH. Bring them up to 25 basis points?

MR. KOHN. Up to whatever the deposit rate is—right. I think the answer might be—or the problem might be—this leverage ratio. But I was encouraged by your previous finding that the leverage ratio wouldn't be a problem with the amount of reserves, and I also was encouraged by the response of the banks, namely, that they were putting emphasis on risk-weighted assets rather than on total assets as they thought about their capital ratios. So I wondered about that counterforce pushing those short-term rates up to the deposit rate.

My second point, for Jim, is related to the same thing. You said that there was a concern about bank capital relative to the reverse RPs, also related to the leverage ratio rather than the risk-weighted assets. But we did say that the leverage ratio wouldn't be a constraint for reserves. So it shouldn't be—in total, anyhow—a constraint for some other Federal Reserve liability, that is, reverse RPs. Now, the difference might be that the reverse RPs were being done with a smaller number of counterparties, so all of the pressure would be on 15 of the largest institutions. But they probably account for a lot of the assets anyhow. So I wondered whether it was a question of distribution, implying that the leverage ratio wasn't a problem for reserves, but it would be a problem for reverse RPs.

My final comment is on the press release. I don't think it should be commenting on what forms the TAF might take if it became permanent. The Committee hasn't had a chance to discuss it. Who knows how this is going to come out? I think it's all right to say we'll be looking at it, but not suggest what it could be.

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. I have three questions. First, for Mr. English, about the four banking organizations responding that they wouldn't change lending terms. I assume you're not shocked they didn't tell you they would ease credit standards.

MR. ENGLISH. In the last Senior Loan Officer Survey, we asked them when they would move back to more normal standards.

MR. LACKER. On the lending terms, aren't a lot of loans priced as a spread over a market rate?

MR. ENGLISH. Yes.

MR. LACKER. So if they say they weren't going to change lending terms, would you interpret that to mean they wouldn't change the spread?

MR. ENGLISH. Yes.

MR. LACKER. So it’s sort of like a partial equilibrium response, and if other stuff that went on pushed down rates, it could push down lending terms as well.

MR. ENGLISH. It would push down those base rates. That’s right.

MR. LACKER. Right.

MR. ENGLISH. Though I’m not sure that you’d get a lot of action there, at least on the business side, because one base rate is the prime—I don’t think it’s going to be cut much. The other is three-month LIBOR—it’s already pretty low. But I agree conceptually.

MR. LACKER. Right. I have a question for Mr. Clouse on these reserve collateral accounts. When you think about, sort of, a “medical intervention,” you wouldn’t run around and do that on the basis of a two-month-old working paper; instead, you’d look for peer-reviewed research. You guys are working hard on implementation. What are you doing to check the robustness of the theoretical basis for what you’re designing this program around?

MR. CLOUSE. I’m not sure about the theoretical robustness, but I definitely think the staff shares your basic concerns about whether this would really function in the way the theory might suggest. One of the things that the staff has done is to consult with the GSEs to find out whether their view of it would align properly. I think it’s also important that we consult with the other side of that transaction, the banks that would be putting these liabilities on their balance sheets, to find out whether they, in fact, would find it attractive, because it really takes both sides of that transaction to make this thing work, and I think it’s really unclear at this stage. The staff has more work to do to vet this to be more confident that it could be useful.

MR. LACKER. Do you have the results of the GSE conversations yet?

MR. CLOUSE. Not yet, no. They’re actually doing a fairly extensive review. They’re treating it as a new product, and they’re putting it through a fairly standard process that they would use in analyzing a new product, and they’re going to report those results back to us fairly shortly. So I hope we’ll learn a good bit from those.

MR. LACKER. Did you say they're putting it through their standard new product evaluation? [Laughter]

And finally, a point about term deposits. You were talking about some features that would make these pretty liquid—they'd be able to pledge them at the discount window and withdraw them without penalty. If you make these things really accessible, then I'm not sure why draining reserves and putting them there would have any effect. Why would you expect that? Don't you need some stark, sharp, constraining differences in order for them to have any sort of monetary effect?

MR. CLOUSE. Absolutely. First of all, just the pure operational dimension of having an early withdrawal option for a term deposit is really very difficult. But, beyond that, to your point, certainly if there were a withdrawal option, you'd want to have a pretty stiff penalty associated with it, so that it wouldn't just be relabeling reserves. It would have to have a fairly clear distinction in order to perform the function that's intended.

MR. LACKER. Thank you.

CHAIRMAN BERNANKE. President Plosser.

MR. PLOSSER. I have a couple of questions for Bill and one for Brian. One is just a factual question. In your first chart where you talked about the projected level of excess reserves, were you including in that the increase in the roughly $200 billion from the end of the SFP program?

MR. ENGLISH. I think that's the first peak.

MR. PLOSSER. Is that the first peak?

MR. ENGLISH. Yes.

MR. PLOSSER. Okay. I just wasn't sure whether it was included. Second, I was thinking about the story and the analysis that you've done. At the end, you say, well, okay, what if this analysis is wrong? What would the outcomes be? My question is how we should think about metrics and variables and things we should be looking at as we go forward during this period of very high reserves to get a handle on which way this story is actually going, because I think there's a lot of uncertainty about how this might, in fact, play out. How would we structure our ongoing analysis of what's going on out there, so that we would be alert to whether or not the kinds of things that might be the alternative play out? Are there metrics that we should be looking at? Are there things that we want to monitor carefully to be able to get a handle on that?

MR. ENGLISH. There are, but I think they're things we're already monitoring carefully. They would be things like the short end of the yield curve. How is it behaving? If somehow the high level of reserves and reduced demand for reserves is causing some sort of arbitrage into short- and intermediate-term safe assets, you'd expect to see that at the short end of the Treasury yield curve.

MR. PLOSSER. So is that like the decline in short-term Treasuries vis-à-vis the higher reserves that we witnessed recently?

MR. ENGLISH. At least over the intermeeting period, it's across the whole yield curve. So I don't think it matches up with this sort of story, which I'd expect at least would be concentrated at the short end, because those are more substitutable.

You'd also want to look at how banks are behaving. If this story is really going to have legs for the economy, at some point, despite what they told us, banks are going to have to ease some standards and terms on their lending. So, clearly, we're spending considerable time thinking about the bank lending data and the Senior Loan Officer Opinion Survey and how we integrate these things into our modeling.

MR. PLOSSER. Would things like quantities of loans, quantities of various kinds, as opposed to just prices, become important?

MR. ENGLISH. Over the intermeeting period, as we discussed in the Greenbook, the survey of terms of business lending came in for the most recent quarter and showed another considerable widening of spreads on business loans. We can look at some information we have on prices in the syndicated loan market and also, as you say, at the quantities. Our weekly bank credit data may be informative about whether banks are beginning to move.

MR. PLOSSER. All right. Thank you. I have a question for Brian on the TAF. I'll 'fess up—I'm one of the ones who keeps asking about price as opposed to just quantities, and I'm a little bit confused. Brian, we don't want penalty rates. The Committee made a conscious decision a while back, when we cut the spread between the primary rate and the funds rate, to reduce the penalty rate of being at the discount window. We did that as a conscious decision. But for quite a while now, we have been in a situation where people can almost confidently predict that they're going to get a lower rate if they go to the auction than if they choose to borrow from the discount window directly. There are borrowers who come to our discount windows who are of a scale and size and scope where the TAF auction isn't easily available to them in the amounts that they would like to borrow. So, in fact, we're taking one group of borrowers who want to go to the discount window, and we're making them borrow at a penalty rate. Right now we're in an environment where—and, de facto, we've set this up—if you're big enough and want to participate in the TAF, you can get money at a cheaper rate.

I remain a little bit puzzled about why we want to perpetuate that differential. They're both discount window lending. Why don't we want to make borrowers from both of these mechanisms more similar? I understand that if you reduce the quantities enough at an auction, you can raise the price above that minimum, but TAF borrowing is longer term and there are some other restrictions. So I still remain somewhat puzzled at the reluctance to move the minimum bid closer to the primary credit rate, the rate at which many banks still come and borrow from us. Maybe I'm being dense here, but the logic is escaping me. I haven't figured it out yet. So could you help me out?

MR. MADIGAN. Well, I think the basic distinction that we see is the difference between a standing facility and an auction facility. I'm defining a standing facility as one where the borrowing institution comes to us seeking funds. We want to provide incentives for that bank or firm to find funds in the open market before they come to us, and so we charge a penalty rate for that, which is consistent with traditional central banking theory. By contrast, in the TAF and the TSLF, we're trying, at least conceptually, to place fixed amounts of dollars into the system, that is, make fixed amounts of dollars available to the system and let the market set the price. If we set any significant penalty, we'd simply be undercutting that attempt to provide the dollars into the market in fixed quantities. We'd be driving off the borrowers.

MR. PLOSSER. We have no idea what the quantities are going to be, because it's underbid every time. So I don't quite understand. If we're not maxing out on the quantities, then we really aren't setting the quantities. The market is setting the quantities, and it's setting the quantities based on a low price that we basically are offering. So I'm having trouble reconciling all of this.

MR. MADIGAN. Well, I think it's fundamentally starting from a view that an auction mechanism simply is not consistent with the penalty price.

CHAIRMAN BERNANKE. President Evans.

MR. EVANS. Thank you, Mr. Chairman. I have two questions. The first is for Bill and the second one is either for Bill or maybe for Brian Sack. When you presented the simulation results, I had been conflicted in reading the memo and responding to the fact that the banks were saying, "We've got these excess reserves. We're really not intending to lend them out." You did the simulation—I guess that's kind of natural to look at the implications of lower short-term rates, and that would presumably be more accommodative. But I'm wondering if you learn something else from the survey—that there might be added dysfunction in the lending channel if the banks aren't looking to lend out excess reserves that they currently have available to them. Did we learn more about their lack of intention to stimulate the economy through more lending, or is it pretty much the way we had thought about it before?

And that led me to think about the second question. Earlier in the year, we talked a pretty good amount, I thought, in terms of market segmentation and how effective our various programs would be depending on how clogged up markets were. Arbitrage kind of disperses funds that we would put into the financial system, but when it's more segmented, we have a larger effect. So I guess I'm back to the MBS question. Do you think that that program is more effective in a price sense? Do we have more segments? I don't think we have more segmentation. Do we have less segmentation? Regarding the rate effects that we might have estimated early on, would they be smaller now because these are more dispersed? I think that's what President Lacker was trying to get at with Treasuries, but I'm not exactly sure.

And then there's the next part of this question, which you can answer either today or later. Do we have an idea of what an estimate of the MBS rates will be when we're done with the LSAP programs if it were the full \$1¼ trillion tapered at the end of the first quarter, and if we did what President Hoenig suggested, only \$1 trillion tapered to the end of the fourth quarter? What would those rates look like at the end of the first quarter? I'm not sure I understand the different implications, or at least our thinking on that.

MR. ENGLISH. Let me try talking about banks for a second. I think what we learned from the banks on the whole was consistent with what we thought before, which is that they're very tight, and we think that they will only gradually ease. In the staff forecast, that's basically what we built in—gradually over the forecast horizon, banks loosen up, they get more comfortable taking on risk, they build up some capital, they get more comfortable with their liquidity positions, and they start lending in a more accommodative way. I think, broadly at least, that's consistent with what the banks were saying. They're not going to be going out any time soon and lending aggressively, and, basically, we didn't expect to hear that.

MR. EVANS. And the interest rate cut in the model analysis already takes into account some impediment from the normal type of lending?

MR. ENGLISH. The baseline takes account of it.

MR. EVANS. Okay. Thank you. Do we have an idea about market segmentation?

MR. SACK. Our view is that it's not that the MBS purchases have had an effect and the Treasury purchases just didn't work. It's just that the sizes were disproportionate. It's easy to see the MBS effects, because the program was so large relative to that market; it's harder to see the Treasury effects, because the purchase is supposed to work through supply, but net supply was actually going up quite rapidly. So we may have offset some upward pressure on yields.

MR. EVANS. Well, I was thinking about it differently. You can do the MBS. You can do the Treasuries. If they're segmented, they're different. If there's no segmentation, there's going to be some arbitrage across the different markets, so it almost doesn't matter where you dump those funds.

MR. SACK. Yes. I think the purchases take duration out of the market regardless. There are some other differences. The MBS purchases actually take some negative convexity out of the market, too, and you don't have that with Treasuries. So there are some differences. But the big effect is all of these purchases pull out duration, and, in that regard, you would think they would have some effect on all longer-term assets, and I think that's true to a degree. But I think one thing we realize is that there's not perfect substitution across our asset classes, so when we talk about large-scale MBS purchases, we see the effect most pronounced on MBS rates.

MR. EVANS. But in March we were stymied by the segmentation, I thought. We thought it was really big, and now things seem different. So I would guess that the estimated effect would be smaller.

MR. SACK. Well, I think it means that there are spillovers, but they're just hard to see. If we talk about the effect of the MBS purchases and we look at the spread and say, "Well, maybe it looks like the spread is 50 basis points," so the effect on the spread is 50 basis points. I think it means probably that the effect on the rate is actually larger and some of it has spilled over into Treasuries as well.

CHAIRMAN BERNANKE. Governor Duke.

MS. DUKE. My question revolves around how your analysis and your conclusions would have been different if the banks had expressed a stronger willingness to lend some time in the near future. It seems to me that when we started down this path, we did expect the rate we were paying to be a floor on the fed funds rate, and it turned out not to be. But if the banks were strongly interested in lending and chasing loan funds, it seems as if that would be the point where it would turn out to be a floor. Am I thinking about that correctly or not?

MR. ENGLISH. It might well push up short-term rates, as banks were less likely to run off deposits and manage liabilities because they saw better lending opportunities. In terms of the simulation that we did, one of the knobs we didn't turn was an easing in credit. If you turn that knob, you'd get a bigger effect on output and unemployment—still not huge, but a larger effect for sure. So I think that, if the banks had been telling us, yes, we're likely to ease our lending standards and terms early next year, then our exercise would have showed a bigger effect on output and probably a smaller effect on rates.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. First, Mr. Chairman, I agree with President Plosser's question about TAF versus the penalty rate on the discount window, but we talked about that a long, long time ago. I think it's a good point to take into account.

My question is for Bill. We had four institutions in this little sample. They account for 35 percent of the excess reserves. How many institutions would you have to take into account, say, to get to 75 percent of excess reserves or 50 percent? In other words, are they concentrated in the top ten? Five? Twenty? Guess?

MR. ENGLISH. I don't know the answer. I'd have to check. I think the whole industry is concentrated, so if you took the top 25 banks, you'd probably have a huge majority of the reserves, but I just don't know for sure.

MR. FISHER. I guess what concerns me is that these monies are languishing in the system. They're unlent and they're unmultiplied. And, again, here we have differentiation in the market. We have been worried about when—just to use an ugly analogy—this giant fur ball finally gets released from this big pipe. We're worried about a way to neutralize it. But meanwhile it's lying fallow in a sense, from the standpoint of people that want to borrow, assuming there's loan demand. If you go through each one of your boxes, we don't know how much buffer people want over regulatory norms— no increase in lending. Mr. Lacker pointed out no change in lending terms and standards. I guess, again, like President Plosser, I may be a dunce on this one. I'm not saying you're a dunce, Charles. [Laughter]

MR. PLOSSER. I've been called worse things.

MR. FISHER. I'll share the dunce cap with you. I'm concerned that this money is unlent and unmultiplied and represses velocity. I realize that the suspenders that President Dudley talked about go to what we're trying to treat, but that's not an issue presently. I just worry about the distortions it creates in the system, and I wondered if you had any comments on that, or maybe I just need a basic tutorial from you also.

MR. ENGLISH. I need a little help on what your concern is.

MR. FISHER. It concerns me that we've ramped up reserve balances to $1.2 trillion, money that we're almost incentivizing not to go out into the marketplace and paying a rate of interest, right? It's small but it does concern me that it's not being put into the system. We have an unlent, unmultiplied buildup in reserves. Now, we worry that it could expand too quickly and come back in the system and that's all of these treatments that you went through in your second presentation was all about. But in the meantime, it's like they're sitting in the system lying fallow. Am I missing something here?

MS. YELLEN. We could cut the interest rate we pay on reserves, and then it would be less likely to lie fallow.

CHAIRMAN BERNANKE. It wouldn't be in the system at all if we weren't doing the quantitative easing, and it's not constraining anything else because it's not affecting leverage ratios.

MR. FISHER. As I said, this is what happens in quantitative easing.

CHAIRMAN BERNANKE. Right.

MR. FISHER. Anyway, your chart number 1 shows a very rapid rundown. I'm just questioning, I guess, that rapid rundown, given the unwillingness of people to lend and the incentives we're providing for reserve retention. But if it's a dumb question, let's take it off the table, Mr. Chairman.

MR. ENGLISH. Well, I think the decline in the stock of reserves has to do with the fact that securities that we're bulking up on now will mature, the mortgages will prepay, and so those assets will run off over time, and currency will grow over time.

MR. FISHER. I guess what I've gotten out of this conversation is a better understanding of why safe, short- and intermediate-term securities have been priced as they've been priced and are yielding what they're yielding, but I remain concerned that these monies remain unlent and unmultiplied in the short term.

CHAIRMAN BERNANKE. President Plosser, you had a two-hander?

MR. PLOSSER. Yes. I wanted to follow up on Governor Duke's question. She asked about lending standards and banks' behavior. The way I interpreted what she was asking was about the supply side or willingness of banks to lend. But, as we witnessed in the last intermeeting period, a lot of the private-sector forecasts for growth have been ramped up substantially in the last few months, both for this year and for next year in some cases, to varying degrees. So, in some ways, the issue is not just the banks' willingness to lend, but also what the new demand for loans is going to be. While banks may not lower their lending standards, as the demand for loans from the private sector begins to ramp up with continued economic growth, they may not change their lending standards, but those excess reserves will get translated into loans as the demand for new loans goes up, and the price may rise as well. So it's not just what the banks are willing to do, but also how demand will evolve over the course of this recovery that will determine some of that. You did mention that, but I think both of them are clearly important.

MR. ENGLISH. I agree. As I think I said in my briefing, a couple of the banks pointed exactly to this. As the economy recovers, demand for loans will pick up even if they don't do any easing at all.

MR. PLOSSER. Exactly.

MR. ENGLISH. They will have more creditworthy customers coming to them, and they plan to meet that demand.

MR. PLOSSER. Using reserves to do so.

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. I will follow up on a couple of things. Thank you, Mr. Chairman. Bill, you talked earlier about where in the yield curve you would expect the effect of quantitative easing to show up, and you suggested the short end. I guess you're thinking six months or less.

MR. ENGLISH. Well, the banks talked about short- and intermediate-term maturities out to two or three years.

MR. LACKER. Two or three years. Okay. We've seen that. But you're saying that because we've seen effects farther out the yield curve. That counts against quantitative easing as a monocausal explanation for what has happened over the intermeeting period. But it doesn't rule it out, right?

MR. ENGLISH. Well, it could be a piece. I think it doesn’t rule it out, but, as I say, I would have expected a change in the shape of the yield curve. What we got was pretty much a uniform shift.

MR. LACKER. They hold a fair amount of agencies, is my understanding.

MR. ENGLISH. Agency MBS for sure. I’m not sure about straight agency debt.

MR. LACKER. Yes, I don’t think there’s much debt. I think agency MBS.

Brian, I have a question about your yield effect estimates: Shouldn’t that depend on how they are financed, like what we do on the other side of our balance sheet, right? If our early purchases were essentially sterilized by offsetting reductions in borrowings, that’s going to have a different effect on agency yields than if we add enough to reserves that it induces those yields to fall. Do you see what I’m saying?

MR. SACK. When you think about the effects through a portfolio-balance channel, you’re right that it depends on if and how the purchases are sterilized. If you’re buying MBS and sterilizing that by selling long-term Treasuries, you’d be having a much smaller effect on duration in the market, and so it would be getting a smaller yield effect.

MR. LACKER. Right.

MR. SACK. If it’s sterilized through reverse repos, for example, even if the reserve paths aren’t different, essentially the portfolio-balance effect still works, because you’ve changed the duration and the supply of those assets in the market, which is what we think, at least partially, prompts the effect on yields.

MR. LACKER. The estimate you gave us earlier—I can’t remember what it was. What was the estimate?

MR. SACK. The estimate of the effect of total program purchases?

MR. LACKER. No, it was the incremental effect.

MR. SACK. I said that if the MBS purchases were ended at $1 trillion, then perhaps the upward pressure on MBS rates would be 15 to 30 basis points.

MR. LACKER. 15 to 30.

MR. SACK. Again, it's a very uncertain estimate, but just to put an order of magnitude on the table.

MR. MADIGAN. If I could just break in for a minute, Brian's estimates are consistent with our previous staff estimates, which were based on an event study methodology. That, by its nature, should abstract from any effect due to changes in our financing of the securities. We simply look at how much yields change during a narrow window of time in which announcements of our purchases were made, and we got estimates very similar to those that Brian did.

MR. SACK. Right. This is really to a point Bill Dudley made. We are talking strictly about supply effects, portfolio-balance effects. Any signals about the path of short-term interest rates or the FOMC's policy inclinations would be on top of that. So if it were interpreted as a step towards tightening, and market participants, for example, moved up the expected timing of tightening, you would get further effects.

MR. LACKER. Well, now I'm confused. You gave us these estimates earlier in the year. Are you interpreting these announcements as being viewed by market participants as sterilized or unsterilized additions to the stock of our holdings?

MR. SACK. I would say unsterilized. Certainly, the biggest announcements in March were beyond the period in which the Desk was sterilizing the operations.

MR. LACKER. How does this estimate line up with what has happened so far, which presumably is sterilized?

MR. SACK. I'm sorry. What exactly is sterilized?

MR. LACKER. You gave me some estimates of effects. You were talking about estimates of effects that have occurred so far during a period where we have essentially sterilized them.

MR. SACK. No, I would say we have not sterilized the purchases.

MR. LACKER. I don't see how you can say that. Earlier in the year we were buying MBS, and you kept forecasting increases in reserves. They kept not happening. Borrowing kept falling. It looks as if they were sterilized.

CHAIRMAN BERNANKE. De facto sterilized because of the offsetting movements.

MR. LACKER. Yes. De facto sterilized by offsetting, right.

MR. SACK. Okay. But if we're talking about sterilization through short-term credit, and through the withdrawal of short-term credit, you're still left with a change in the supply of the long-term asset, you're still left with the shift in duration from the purchases. There are different kinds of sterilization. If you're sterilizing, as I said, by selling long-term assets, that would really work against the portfolio-balance effect. If it's being sterilized by reducing short-term credit, I don't think it works against the portfolio-balance effect that much, because it is not affecting the fact that the market is holding that much less duration than it was before.

CHAIRMAN BERNANKE. I think I detected a little appetite for coffee around the table. [Laughter] So why don't we take fifteen minutes and come back at 4:05 p.m.? Thank you.

[Coffee break]

CHAIRMAN BERNANKE. Why don't we recommence? We've had a number of issues raised by the presentations. First, there were some recommendations from the Desk on large-scale asset purchases, including possible tapering strategies. Second, we had some discussion of reserve management tools and the progress there. Third, there was a proposal essentially on the TAF and the TSLF. Let me just mention parenthetically that, as I understand it from talking to Scott, no votes are needed to implement those proposals, because the TSLF directive in particular told the Desk to wind down the options as conditions permit. I'd be happy to hear comments. But if people would like to disagree with the press release or the plan, please say so. If we get more or less consensus around the table, we won't have to take a formal action on that, I think. So those are three topics that we can talk about.

This part of the meeting is billed on the agenda as an opportunity for informal, unstructured interaction [laughter], which I am going to duck, I think, in a minute. I hope this is a chance for us just to have some interchange. Let me just be very clear that we will not be making any decisions in this part of the meeting; the decisions on large-scale asset purchases, and so on, will be taken tomorrow in the policy round. So please don't feel that you are compelled to speak in order to get your voice heard—you will be heard. But it would be useful, I think, to have some additional discussion.

Before we get into that, I just wanted to say a word or two about the quantitative easing mechanism, because I feel as if there's a certain amount of confusion going on. So let me just say three straightforward things.

The first point, and I think we all agree on this, is that any action we take—through purchases or auctions or whatever—to put reserves into the banking system, on net, will be expansionary, because whatever the banks do along the lines of what they told Bill English and his colleagues—whether it's buying other assets, or lending, or whatever action they take—will tend to be expansionary. Of course, in equilibrium this will be reflected in lower short-term interest rates across a range of potential assets. And that's essentially how quantitative easing works. It's meant to be expansionary, and I think it would be in the context that we're using it here. President Yellen made a good point during the break, which was that quantitative easing should be expansionary even if the leverage ratio were binding. The reason is that, in order to avoid the leverage ratio, firms would either have to get rid of managed liabilities or lower deposit rates and otherwise prevent the inflow of cash into their institution. If depositors are not incentivized to put money into banks, they will go to money market mutual funds or to other types of short-term credit markets, and that, again, will have the effect of lowering short-term interest rates, and, therefore, be expansionary. So I don't think that there really is any barrier to quantitative easing being effective in our current institutional environment.

The second observation I would make is based on Bill's simulations; based on what we know, we think the quantitative easing effects are probably pretty small. Short-term interest rates are already low. They might be made a little bit lower by quantitative easing, but I don't see much chance of a huge overshoot in a short period of time. I think that's not what the evidence suggests. It's not what the Japanese experience suggests. So quantitative easing should be expansionary, but I don't see it as being a major part of our overall monetary policy stance.

And then, the third thing I'd like to say is that we can exit from the high level of reserves. We have, in fact, three methods to do that—we have two belts as well as a pair of suspenders. First of all, we have the interest on reserves, which may be leaky, but certainly if it's raised high enough it will tighten policy—there seems to be little doubt about that. Second, we have the various ways of sterilizing reserves through reverse repos or time deposits. I wasn't quite clear about the timing, but my sense is that these things will be coming online by early next year. So over the time frame in which we would have to do a significant amount of tightening, we should have the tools in place to do that. Then, of course, the third method we *know* we can do is sell assets. I think that that would not only have effects via the reversal of quantitative easing, but it also would have very powerful signaling and market effects.

These are very important issues for us to understand. But I felt there was an impression somehow that we were not in control of the situation. I don't think that's true. Obviously, it's a difficult and novel situation, but I do think that the staff and all of us working together have a pretty good understanding of how to manage this and how this relates to standard monetary policy.

So that's my little homily. Let me now open up the floor for any comments on asset purchases, reserve management, TAF, TSLF, any of those things that anyone would like to bring up, and I would invite interaction. Would anyone like to raise any points? Ah, President Lacker, I knew I could count on you. [Laughter]

MR. LACKER. I just have a question about SFP. If you want to talk about this more tomorrow in your presentation, and tee it up to do that, I'm fine with that, but it sort of gets to a broader issue. The SFP is now projected to fall, consistent with the Treasury's announcement, and then rise again. I noticed that in our previous Bluebook it had been projected to stay longer where it is now, fall, and remain at zero permanently. I was confused about the shift in the forecast after this intermeeting period, and I wondered what that represents.

CHAIRMAN BERNANKE. Yes, let me comment on that briefly. First of all, I think it's important for us to be able to do what we need to do without relying on the Treasury. Obviously, we need to maintain that independence and that flexibility. Whatever help they can provide, of course, is a bonus. I’ve had some discussions with Secretary Geithner and others, and the view was that because the debate on the debt ceiling—which will probably be toward the end of the year—could be contentious for a lot of reasons, it would be a good idea for us to have a low profile and not be part of this discussion. For that reason, I suggested to him that they run it down to a very low level until such time as all that discussion was completed. Once the debt ceiling is raised, they are perfectly comfortable bringing the SFPs back up to some level. Of course, at one point, it was over $500 billion—is that right, Brian?

MR. MADIGAN. That’s correct.

CHAIRMAN BERNANKE. So there’s some scope there, depending on how high the debt ceiling goes. But that being said, there is a sort of sine wave aspect of this, if we run into a debt ceiling again, for example, at the end of next year. So I think it’s something that will on average be of some assistance if we get into a sterilization mode, but clearly we don’t want to count on that as an essential element of our strategy.

MR. LACKER. It’s a $185 billion bulge, obviously. And it adds a lot, right at the peak of that curve there.

CHAIRMAN BERNANKE. When is the peak in the reserves?

MR. MADIGAN. It’s early next year. It’s in Bill’s chart.

CHAIRMAN BERNANKE. Middle of next year, I thought.

MR. ENGLISH. Well, I think there’s an early peak because of the SFP, and then the later peak because of the condition of our purchases.

CHAIRMAN BERNANKE. Right. There’s a peak because of the SFP, but, of course, the balance sheet doesn’t max out until after the MBS would be settled sometime early next year. And by that time, if all goes well, the SFP would be back in action.

MR. LACKER. You took into account the monetary policy effects when you discussed this with the Secretary?

CHAIRMAN BERNANKE. Well, given that we're not in a mode of tightening at this point, I think that the effects would occur only through quantitative easing. I think they'd be modest. But if necessary, of course, we can adjust in other dimensions.

MR. LACKER. The longer-run projection used to be zero. Why were we projecting zero, and then we changed that to $200 billion?

CHAIRMAN BERNANKE. I don't know.

MR. MADIGAN. On further reflection, we thought it might make more sense just to assume that the level was held up, because it is a possible tool for absorbing reserves in the future.

MR. LACKER. Do we have an understanding with the Treasury about it returning to $200 billion?

CHAIRMAN BERNANKE. My personal discussions with the Secretary suggested that they were very comfortable raising it up again when the debt ceiling permitted. But, again, I don't think we should have either a formal understanding nor should we rely on it because of the independence issue.

Vice Chairman, did you have a comment?

VICE CHAIRMAN DUDLEY. Thank you, Mr. Chairman. I don't know if we should talk about the agency MBS purchase program today or tomorrow, but it is 4:15, so today seems like a good time. I think your comments on the exit were very appropriate in the sense that if we really think that the exit is manageable, then you really have to take that concern off the table in terms of thinking about the agency MBS purchase program. So the discussion is then based on how do you want financial conditions to evolve over the next, say, 6 to 12 months?

My view is that the end of the agency MBS purchase program is going to tighten financial conditions over that time frame, in any case. We can argue about how much it's going to tighten, but it's going to move in that direction. So the question is: Given that we're already on a path that financial conditions are going to tighten, why would you want to pare back this program? That would just exacerbate the tightening in financial conditions at a time that policy is not as accommodative as we would like. If you look at the Bluebook, the unconstrained federal funds rate path is minus 4 percent. So I really don't see the logic for why we'd want to back away from this program, if we stipulate that we aren't worried about the exit problem.

If you are worried about the exit problem, then I can understand why you could care about whether the balance sheet was $100 billion bigger or smaller. My view is that not only should we do the entire $1¼ trillion, I think we should commit to doing that $1¼ trillion at this meeting for three reasons.

MR. BULLARD. Are we doing the policy debate now? I can get into the policy debate, if you want.

CHAIRMAN BERNANKE. Let's let him finish, and then you can respond.

MR. BULLARD. You just said, "Don't go off on your policy round today." He's preempting the debate.

VICE CHAIRMAN DUDLEY. I'm happy to defer until tomorrow, if you'd like.

MR. BULLARD. I don't mind, but if you want to do it now, we can do it now.

CHAIRMAN BERNANKE. All right. Why don't you defer that point until tomorrow?

VICE CHAIRMAN DUDLEY. Okay. Fair enough.

CHAIRMAN BERNANKE. Are there any other questions about the broader issues? President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. I had the impression from earlier conversations we've had that, at least at one stage, there were two mechanisms under consideration, one being the classic corridor system and the other being a mechanism more centered on interest on reserves, where the interest on reserves would become the policy rate. Is it a foregone conclusion that we're going back to a classic corridor system? The whole discussion is about the ability to manipulate excess reserves in an interest on reserves regime to a degree that we could decouple those things. Maybe I'm the one who is unclear, but are we going back to a classic corridor system? Is that a foregone conclusion?

CHAIRMAN BERNANKE. Well, we weren't really on a corridor system before. We had a target, which was the federal funds rate, and we were manipulating reserves to hit that target. Our interest on reserves strategy would be a corridor system. It would be a rate at which we would pay interest, which presumably would be the floor or would help establish the floor, and then there would be a lending rate, which would presumably be the ceiling.

I think that's a really good question. Here's the problem we have with the federal funds rate: Given some of the things we might be doing in order to try to get better control of reserves, we may make the federal funds rate a less informative interest rate. For example, right now most of the liquidity in the federal funds market is coming from the GSEs. If we start pulling their liquidity out in order to firm up the interest rate floor, then the federal funds market might be a very illiquid market. There's still a bank-to-bank market, but we don't have the same kind of data on that.

So I think we have three options—Brian, you and the staff can certainly comment. One would be to find a way to do the federal funds rate, including perhaps additional information from bank transactions. The second would be to choose another short-term rate, like the repo rate, which might work. And the third would be to make the interest rate on reserves and the primary credit rate the announced variables, which, of course, we know we can do. We could imagine a statement of policy that would announce changes in those two interest rates, plus some open market operations to sterilize a certain amount of reserves. I've mentioned this to staff. I do think we need to give this some more thought. Brian, do you have anything to add?

MR. MADIGAN. Just one additional comment, Mr. Chairman. I think it would be helpful, and I wasn't sure what exactly President Lockhart's question was directed at in the following sense. I think it's useful to distinguish between the transition phase, where there will be a very high level of reserve balances—and that may be over a matter of years—and the subsequent long-run steady state for monetary policy implementation. They may involve two fairly different approaches to implementing monetary policy. For instance, it may be the case that the excess reserves rate does serve as the floor, or at least a soft floor, during the transition phase, as the quantity of reserves is going down. But the Committee would have it at its disposal, and the staff would come back to report to the Committee at some point on the possibility of a number of different operating frameworks further in the future.

CHAIRMAN BERNANKE. You're working on that?

MR. MADIGAN. Yes.

CHAIRMAN BERNANKE. Okay, good. Any other points? Governor Warsh.

MR. WARSH. There was discussion in a memo about when we get to exit, and whether we should supplement those actions with asset sales. There was also a discussion with plenty of caveats about what kind of losses could be realized on that portfolio if rates were to go up 100 basis points. My first instinct was, “Boy, we could hedge that perfectly.” [Laughter] But then I realized the imprudence of that. If we don’t sell those securities, but, in a continued vanguard of transparency, the world is aware of these embedded losses, do we know how that would impact our reporting? What kind of regime, both from a GAAP sense and also a public disclosure sense, would govern us? Is it the sale of these long-term assets that is the question, or is it the embedded losses that could potentially be the question?

CHAIRMAN BERNANKE. Let me give that a try. Just from a pure accounting perspective, we’re on a cost basis, so we wouldn’t be reporting any capital losses. I think it’s not clear that the capital losses or gains are very material to anything for the following reasons. So long as our cost of carry—which is zero on cash plus whatever rates we pay on deposits, and so on—is below the coupon on the MBS, then we would be making positive flow income, which is seigniorage to the Treasury. From an income perspective, unless we get to about 8 percent short-term rates—I think that’s the number that was calculated in an earlier meeting—we’ll actually be making money in some sense on these transactions, which will then be reflected in payments to the Treasury. So I think from that perspective the politics is okay.

If we sell a lot of assets, then we have to realize the losses. That probably has not much economic meaning; it could have some public relations implications. Since we’re dealing only with appearances and not with actuality, one way to deal with that would be to try to sell assets that are in the money first or pair them with assets that are in losses. That would be one way to sell assets without realizing net losses.

The final comment I would make is that I’ve had some discussions with the Treasury about this, because we’ll be returning to the Treasury very high levels of seigniorage over the next few years. I think there would be some basis for withholding some of those earnings to augment our capital, so that if we do have losses, we'd be able to absorb them. Those are some of the considerations. Would Brian or anyone like to add to that?

MR. LACKER. A capital buffer for us?

CHAIRMAN BERNANKE. Yes, absolutely.

MR. LACKER. Above our statutory?

CHAIRMAN BERNANKE. We don't have statutory capital.

MR. LACKER. Above what we do now.

CHAIRMAN BERNANKE. Yes.

MR. WARSH. Just as a follow-up, Mr. Chairman, I have an accounting question. I take what you say and it makes sense, but suppose we were to sell assets that were some subset of the overall pool and substantially similar to assets we didn't sell. Even though we're in this cost accounting regime, I wondered whether or not some more explicit imputed loss would be attributed, if not in the consolidated financial statements, then in the balance sheet. If we were in the world of a real bank and those unsold assets were similar, then you'd be stuck with that problem. But, again, I don't know if from a government GAAP perspective that's a real accounting problem or if from a political economy or transparency perspective that begs the question.

CHAIRMAN BERNANKE. I'm no accounting expert, but because we buy and sell assets all the time and it doesn't affect our cost basis accounting, I can't imagine that that would have a direct implication.

Governor Duke?

MS. DUKE. There is a reason why we don't mark them to market, and I've read it, and I can't remember what it was.

CHAIRMAN BERNANKE. Well, this may be it. [Laughter] Did anyone have any concerns or comments? President Plosser and President Fisher noted the issue on penalty rates, but did anyone have any other issues about the proposal to reduce the two auction facilities? Any other comments or observations? President Lacker.

MR. LACKER. I'd just like to second the notion that the minimum bid rate is a policy parameter that we set, and I fail to see why an auction would be inconsistent with raising that to a penalty rate. And it's a little odd that the term structure is inverted for those funds.

CHAIRMAN BERNANKE. Yes, I actually have some sympathy for this view, and the only thing that worries me a bit at this juncture is that it's kind of a funny time to be changing the structure of the auction when we're in the process of winding it down. But I think that arguably we could have had a higher minimum bid rate earlier on.

MR. PLOSSER. Just to follow up with that, I appreciate that comment. I think what that should suggest to us is that the staff could begin to pursue how to think about a more permanent, longer-term life for the TAF. This is an issue that needs to be grappled with so that in the future we don't find ourselves having this same debate.

CHAIRMAN BERNANKE. Absolutely. My understanding is that, in order to have the TAF as an ongoing facility, even in reserve, we would have to do a rulemaking. Is that correct?

MR. MADIGAN. I believe that's correct, Mr. Chairman.

CHAIRMAN BERNANKE. I believe that's right. Scott?

MR. ALVAREZ. Yes, that's right. In fact, we committed to putting the proposal out for comment before making the TAF a permanent facility.

CHAIRMAN BERNANKE. Okay, we would do a rulemaking for comment. That would be an excellent opportunity to make any revisions to the structure for our permanent facility.

We do need to vote to ratify open market operations.

MR. KOHN. So moved.

CHAIRMAN BERNANKE. Any opposed? (No response.) Okay, thank you. If everyone is okay with it, why don't we turn now to the economic outlook? And the presentation will be by Dave Stockton and Nathan Sheets. Dave.

MR. STOCKTON. Thank you Mr. Chairman. It was with some dismay that I listened to you at Jackson Hole last month wonder out loud whether the FOMC might actually improve its lot by seeking guidance from astrological forecasts, a proposal that I assume was motivated by your experience with the analysis of the staff. I think we've shown ourselves to be appropriately eclectic in the tools that we have employed over time—a necessary reflection of our admittedly vast ignorance about many important economic relationships. However, my colleagues and I want to draw the line at studying planetary alignment, tarot cards, or the entrails of chickens. [Laughter] Of course, I recognize that at least a few of you probably view consulting the entrails of a chicken and consulting an expectations-augmented Phillips curve to be observationally equivalent [Laughter].

In any event, I would like to argue this afternoon that the sizable revisions that we have made to our forecast this round did not reflect a reinterpretation of celestial events, but rather resulted, as is always the case, from a dispassionate and reasoned examination of flawed data through the lens of imperfect models. What we took away from that examination was a view that the economy is expanding at present, and with more vigor than we had previously anticipated. Indeed, the news on spending and production has been noticeably better than we expected just six weeks ago.

One prominent area in that regard has been the housing sector. Home sales and housing starts have been moving up fairly steadily since the spring and have continued to outstrip our expectations by an appreciable margin. Inventories of unsold new homes have now been worked down to a very low level. And house prices, which had fallen steeply and steadily since 2007, turned up in the second quarter in a fairly wide range of measures. Expectations of house prices going forward also have improved, according to the respondents to the Michigan survey and readings from futures on house prices.

We still see difficulties ahead for housing in coming quarters, especially as a pickup in foreclosure-related inventories puts renewed downward pressure on prices. But to better balance the risks in our forecast in light of the more favorable incoming data, we have a shallower decline in house prices in coming quarters and an earlier upturn than we had previously projected. Accompanying this improvement, we now expect a somewhat faster recovery in construction activity, though to a level that by the end of 2011 is still well below those that prevailed prior to the downturn.

Elsewhere in the household sector, consumer spending also has exceeded our expectations, even abstracting from the sizable boost that has been provided by the "cash-for-clunkers" program. Much, though not all, of the surprise in non-motor vehicle outlays came in the form of a jump in retail control spending in August. We are inclined to discount some of that strength because the data are noisy and the underlying fundamentals remain so weak. But still, it was a positive innovation, and we have raised our forecast for the growth of real PCE in the second half by ½ percentage point to an annual rate of 1½ percent.

Likewise, business equipment spending has exceeded our earlier forecast. Real E&S now looks poised to post a small increase, on net, in the second half, in contrast to the roughly 5 percent annual rate decline that we had projected in the August Greenbook. Supporting the somewhat firmer tone of the recent data, survey measures of business sentiment have improved as well. That said, we certainly aren't hearing anything that would suggest an imminent and powerful resurgence in capital spending, and we don't expect the growth in equipment spending to pick up appreciably until a recovery in final sales becomes more firmly established toward the middle of next year.

For some time, an easing of inventory liquidation has been a central element in our expectation that aggregate activity would turn up in the second half of this year. And that process appears to be in train. Indeed, revised data now show that businesses made deeper reductions in stocks through midyear than previously reported, and with the final sales picture having brightened some, the inventory situation has become more comfortable. That is certainly the case in the motor vehicle sector, where production is now being lifted to restore depleted stocks. But inventory-sales ratios are off their peaks in a reasonably wide swath of industries, and a fairly broad-based pickup in factory output has occurred in the past couple of months—an uptrend that we think will be extended in coming months in light of indications that order flows have been improving.

In addition to the implications of the stronger incoming data, a number of other important factors conditioning our projection have improved as well. Most notably, the stock market is about 5 percent above the levels anticipated at the time of the August Greenbook, and longer-term interest rates are somewhat lower. The path of crude oil prices is several dollars a barrel under the trajectory built into our prior forecast. And, as Nathan will discuss in more detail, the incoming data and outlook for foreign activity have strengthened further.

Putting all of these factors together, we are now projecting real GDP to grow at an annual rate of 2¾ percent in the second half of this year, about 1½ percentage points faster than anticipated in our August forecast. Growth is then expected to pick up to 3½ percent next year, an upward revision of ½ percentage point. We project a further acceleration to 4½ percent in 2011.

While that acceleration is a bit more pronounced than in our previous forecast, the basic contour of the projected recovery is still being shaped by factors that we have been citing for some time now. Housing begins a modest upturn, the inventory cycle provides a boost to production, financial strains continue to gradually ease, and the drag from negative wealth effects diminishes. As sales, production, and employment then begin to firm, activity benefits further from usual multiplier–accelerator effects and improving household and business confidence.

Although growth rates of 3½ to 4½ percent seem pretty solid, especially by recent standards, I would still characterize our projected recovery as tepid. In our forecast, real GDP doesn't exceed the previous peak it reached in early 2008 until the final quarter of 2010, the longest such episode in the postwar period. Even a year from now, we expect the unemployment rate to be in the neighborhood of 9¼ and 9½ percent, and two years from now in the neighborhood of 8 percent, still nearly 3 percentage points above our estimate of the NAIRU.

One important reason that we anticipate such a modest pace of recovery is that businesses and households are expected to remain cautious in lifting production, hiring, and spending in response to a gradually improving economic and financial environment. But I'll admit that this forecast depends heavily on judgment calls about how to taper off the substantial negative residuals that have emerged in our spending equations over the past year or so. And there isn't a lot of science to guide those judgment calls.

An important upside risk to the projection is that recovery could exhibit greater upward momentum than we currently project. This isn't merely a prospective concern. Since March, broader financial conditions have improved faster than we had anticipated, and it now appears that economic activity is turning up earlier and with somewhat greater vigor than we had expected. As we've seen in recent months, better financial and economic conditions can feed off each other in a virtuous cycle, with further positive effects on sentiment and spending, just as they fed off each other in a negative manner on the way down. Should that pattern continue, we could be looking at a noticeably stronger economy over the next two years than we are currently projecting. We illustrated some of these self-reinforcing dynamics in the V-shaped recovery scenario included in the Greenbook.

Of course, we also see sizable counterbalancing risks to the downside of our projection. While I suspect that it is an acquired taste, I actually enjoy perusing old Greenbooks. Those from 2002 make for some interesting reading. Early that year, we were surprised by how well aggregate activity was holding up after the terrible shock of September 11. Not only did it appear that activity was getting a lift from the end of an inventory cycle, but final sales were coming in above expectations, purchasing managers were reporting stronger order books, and consumer sentiment was improving. The staff projection called for a noticeable acceleration of activity into 2003. But as the year progressed, activity did not continue to accelerate, and it became clear that sour business sentiment, continuing pessimism, and a lingering capital overhang were restraining the expansion by more than we had thought would be the case. There was, so to speak, a failure to launch.

There is, similarly, a clear risk that the present improvement in activity will not transition into the modest acceleration that we are projecting, but rather will stall out at more meager rates of economic growth. Despite the improvement in many aspects of financial market functioning, credit conditions remain tight and overall financial headwinds could prove stiffer than we have assumed in this forecast. Moreover, the response of businesses and particularly households to the financial shock could prove larger and more durable than we have incorporated in our forecast. We illustrated one aspect of that concern with an alternative simulation incorporating a much higher saving rate than in the baseline forecast. If the economy fails to develop further upward momentum, then it would not be difficult to imagine giving back some of the recent gains registered in financial markets and experiencing a new wave of concern about the condition of banks' balance sheets, with consequent effects on prospective aggregate demand and output.

While both the upside and downside risks to our projection for real activity loom large and seem plausible, I don't view the staff forecast as an average of two more likely outcomes—a boom and a stall. I think the most probable outcome remains one of gradual recovery. But the probability distribution covering these outcomes seems pretty flat to me. Moreover, even if a gradual recovery comes to pass, it will undoubtedly be characterized by fits and starts, rather than the relatively smooth acceleration that we are forecasting. And that will add to the difficulties of distinguishing among these three possibilities for some time to come.

Let me now turn to inflation, where we have made only modest adjustments to our forecast this round. We have revised up our estimate of total PCE price inflation in the current quarter by about ½ percentage point to an annual rate of nearly 3 percent, but lowered our fourth-quarter forecast by ¾ percentage point to 1½ percent. This pattern of revision largely reflects some sharper-than-expected increases that have been posted by retail gasoline prices, which we expect will be mostly retraced in coming months given the fallback in crude oil prices. Food prices have surprised us to the downside, and early crop reports suggest that an ample harvest will likely hold down farm prices and, with a lag, retail food prices in coming quarters. The August reading on core CPI was a handful of basis points above our expectation and that, along with somewhat firmer prices for medical services in the PPI, led us to mark up our current-quarter forecast of core PCE prices by ¼ percentage point to 1½ percent. We are projecting core inflation to edge down to a 1¼ percent pace in the fourth quarter.

In response to the higher levels of resource utilization that we are showing in this Greenbook, we nudged up our core inflation projection by 0.1 percentage point in 2010. But the basic contour of the projection remains unchanged. We continue to believe that the very wide margin of slack in the economy will put further downward pressure on inflation but that this downward pressure will be tempered by relatively stable inflation expectations. Core PCE price inflation is expected to recede from a pace of 1.4 percent this year to 1.1 percent in 2010 and 1 percent in 2011. Total PCE inflation is expected to move up from 1 percent this year to 1¼ percent in 2010, as food and energy prices turn back up, and then is projected to drop back to 1 percent in 2011, close to the pace of core inflation. Nathan will continue our presentation.

MR. SHEETS. The global recovery that began in Asia now looks to be more broad-based than it appeared in August. Recent data indicate that activity abroad expanded in the second quarter at a 1¾ percent pace, a full percentage point faster than we had expected, with positive surprises in both emerging-market and advanced economies. This outcome—along with improving data on manufacturing and trade, further healing in financial markets, and the stronger U.S. outlook—has led us to revise up our projection of foreign economic growth ¾ percentage point in the second half this year and ¼ percentage point in 2010.

The emerging-market economies are likely to lead the recovery, with growth averaging near 5 percent through the forecast period. Activity in the advanced foreign economies should also pick up steam, rising from about a 2 percent rate during the second half of this year to over 3 percent in 2011. The near-term global expansion is supported by a turn in the inventory cycle, improvements in business and consumer sentiment, and the ongoing effects of monetary and fiscal stimulus.

Our forecast seeks to balance two competing considerations. On the one hand, the remarkable depth of the recent recession and very low levels of resource utilization provide scope for a snapback in activity as improving conditions unleash pent-up demand. On the other hand, strong headwinds from lingering stresses in the financial sector, weak labor market conditions, and expiring fiscal stimulus are likely to restrain growth over the next two years, particularly in the advanced economies. In response to these considerations, we have penciled in a recovery that envisions foreign growth that is well above trend, but we also anticipate that significant slack will persist through the end of the forecast period.

In China, recent readings on industrial production, investment, and retail sales point to continued strong expansion. Following new measures by the Chinese authorities to moderate credit growth, bank lending slowed significantly in July and August. However, the authorities have issued assurances that their policies will remain accommodative until a sustainable recovery is at hand. Until such time, the authorities are likely to continue to struggle to strike the right balance between constraining speculative behavior and maintaining an appropriately stimulative stance of policy. As such, it remains to be seen whether the Chinese authorities will achieve a smooth dismount from the extraordinary stimulus implemented in the first half of the year. Growth elsewhere in the region continues to be buoyed by demand from China, but domestic stimulus and rebounding private spending are also lending support.

Going forward, economic growth in emerging Asia should remain strong, at around 6 percent, through the forecast period. But key risks include the possibility that external demand may be slow to recover or that stimulative monetary conditions, coupled with the relatively favorable outlook for the region, may trigger unsustainable increases in asset prices.

The contraction in euro-area GDP during the second quarter was much smaller than expected, as the German and French economies showed positive growth, supported by improved export performance. In addition, automobile purchases surged as consumers responded to government incentives. With these incentives now winding down, we expect euro-area consumption to weaken again, but a turnaround in inventories, further gains in exports, and rebounding business sentiment should fuel economic growth in the region of around 1½ percent in the second half. Thereafter, we see a moderate recovery taking hold, with GDP expanding at a 2-3 percent pace, but headwinds from weak labor market conditions and stresses in the financial sector will constrain growth going forward.

Recent signs also point to a near-term rebound among our North American neighbors. After several quarters of contraction, Canadian economic growth is expected to rebound to 2½ percent in the second half of this year, as improved conditions in the auto sector fuel a rise in exports and a strengthening in domestic demand. The hard-hit Mexican economy, which over the past year has contracted nearly 10 percent (its largest decline on record), now appears to be reviving as well. Mexican auto production was up sharply in August, and business sentiment is rising. In line with these improvements, as well as a reversal of economic drag from the swine flu outbreak, the Mexican economy should begin to recover in the second half of this year. In 2010 and 2011, both Canada and Mexico should benefit from the strengthening expansion in the United States.

We expect that headline CPI inflation in the major foreign economies will remain muted through the forecast period, with persistent slack preventing inflation from breaking out on the upside and well-anchored inflation expectations keeping inflation from dipping much on the downside. In this environment, the major central banks are assumed to leave policy rates at their current low levels for quite some time. The Bank of Canada has made a conditional commitment to keep its policy rate at 25 basis points through the second quarter of 2010. As such, we expect the Bank to wait at least until the second half of next year to begin its liftoff. The Bank of England, which last month increased its asset-purchase program by £50 billion (with Mervyn King voting for an even larger increase), will likely refrain from tightening until early 2011. And we believe that the ECB will also wait until 2011 to begin raising policy rates.

The broad dollar has declined 1¾ percent since your last meeting, with an appreciation against the pound and the peso only partially offsetting a sizable depreciation against the euro and the yen. We project that the dollar will remain on a modest downward trajectory, depreciating at an annual rate of about 2½ percent over the next two years.

Turning to the U.S. external sector, nominal trade data for July pointed to a sharp rebound in both imports and exports. In line with these data, as well as the projected bounceback in automotive trade and the strengthening of U.S. and foreign demand more generally, we now expect imports and exports both to expand at roughly a 20 percent pace in the third quarter. Thereafter, rising foreign economic growth and stimulus from recent and projected future dollar depreciation should fuel export growth at an average annual rate of 8¼ percent through 2011, while imports are expected to grow just a touch more slowly.

Beginning with the fourth quarter, we have raised our projections for import and export growth roughly 3 percentage points relative to the August Greenbook. Although this revision in part reflects the stronger outlook for U.S. and foreign activity, we have also factored in a more aggressive judgmental rebound in trade. As of the second quarter, real imports were down 20 percent from their previous peak and real exports were down 15 percent. This cyclical downturn was much larger than our models predicted. With the improved global outlook, we are now writing down a bounceback that is also much larger than our models suggest, but which we believe better matches the behavior of trade during past economic recoveries.

Taken together, net exports are expected to swing from a positive contribution to U.S. GDP growth of 1.6 percentage points in the second quarter to a negative contribution of about ¼ percentage point on average over the forecast period, just a bit more negative than in our previous forecast.

In sum, we are more confident about the projected recovery abroad than we were in August, but much uncertainty remains about its breadth and durability. One notable risk is that the boost from the turn in the inventory cycle may prove to be short-lived and that consumption and investment spending may remain sluggish for longer than we now anticipate. Similarly, it is possible that the recovery in global financial markets may have gotten ahead of itself, especially given continued balance sheet stresses in major financial institutions. Finally, with high and rising unemployment in many countries, intensified protectionist pressures and increased trade barriers are an ongoing risk as well. Thank you, and we’re happy to take your questions.

CHAIRMAN BERNANKE. Thank you very much. Are there questions for our colleagues? President Plosser.

MR. PLOSSER. I have a question. Dave, both you and Nathan referred to financial headwinds as one of the downsides or stresses to growth going forward. That phrase has come up a lot over the last couple of years. As financial markets have improved, I was wondering if I could get a handle on the degree to which financial headwinds affect this forecast compared with the degree that you marked down your earlier forecasts when you also saw headwinds. Has the picture changed for you in some way? I'm not saying that headwinds have necessarily gone away, but have they changed given the evolution of the financial markets, and, if so, how? And how is that reflected in your forecast? And, Nathan, for the international side, the same question.

MR. STOCKTON. Between the August forecast and this forecast, there really hasn't been any significant change. In our measures of financial stress, we haven't learned anything more because we haven't gotten another Senior Loan Officer survey to gauge bank lending.

MR. PLOSSER. Since last spring, though.

MR. STOCKTON: But since last spring things have changed. We've tried to be symmetrical in our response to the deterioration. As you know, we were marking down our forecast by more than would be suggested by the standard interest rate, wealth, and exchange rate channels. As things have improved, we've taken some of those negative add-factors out of our spending equations and allowed spending to come back more closely to the equations than was the case in our forecast in March when we had very substantial negative adds going out through the end of the forecast horizon, but not really lessening very much over the course of this year. As things have improved, we're interpreting some of the upward revisions that we've made to the forecast, which are very substantial for the second half of this year, as a reflection of improved overall financial conditions, some of which operate through our model—the stock market, interest rates, the exchange rate—but others of which operate through channels that the model doesn’t incorporate, such as through tight bank lending and other kinds of constraints. I don’t have a quantitative number that I can just pull out of the air here, but I’d say a noticeable fraction of that improvement in the incoming data probably reflects the fact that we’re not getting as much restraint coming from those financial conditions as we had previously thought.

MR. PLOSSER. Well, how much of the improvement of your forecast, in some sense, is reflected in the diminishing of the negative add-factors that you had been putting in before and how much of it is really the model? I think you probably gave me as close to an answer on that as I’m going to get. [Laughter]

MR. STOCKTON. You may recall that, as we showed in a number of Greenbooks, we were consulting some reduced-form models that incorporated measures of financial stress. We were looking at correlating those measures of financial stress with residuals in the FRB/US equation. They’ve generally moved in a more favorable direction— not uniformly, but generally in a more favorable direction. The reason it’s so difficult to be very precise is that the magnitudes of that improvement differ a lot by those various measures and various models. I think that if you look at what’s happened in the second half of this year and, given that it hasn’t all just occurred as an end of an inventory cycle —we’re seeing some better final sales as well— it reflects an improvement in these financial channels.

MR. PLOSSER. Okay. Thank you. Nathan?

MR. SHEETS. Just briefly, I’d say that there have been probably three major factors that have driven the upward revisions to our forecast since the March Greenbook, which was the trough. One is the very surprising rebound in emerging Asia. Economic growth in emerging Asia in the second quarter was at an annual rate of 14.5 percent. There’s no way that we would have seen that coming. In particular, the fiscal stimulus in China came on much more quickly and powerfully than we expected. A second factor that's operating on our forecast, particularly for North American countries—Mexico and Canada—is the markup in the U.S., which has a very powerful effect, and to some extent the markup in emerging Asia. The third major factor has been the much more rapid improvement in global financial conditions than we would have expected. So it's one of the three major factors. I'm not sure exactly how we want to allocate it across those three factors, but that's roughly the order of magnitude.

One other thought that I want to articulate is that I look at these headwinds as being a factor that's weighing on economic growth and affecting our central forecast, but, in addition, I look at it as a downside risk—these headwinds may prove to be more debilitating than what we factored into our forecast. Therefore, because of these headwinds, we have a slower pace of foreign growth, particularly in the advanced economies, than we would otherwise; we also have a distribution of risk that's more skewed to the downside than would be the case without them.

MR. PLOSSER. Just one clarification: Would you characterize the improvement in financial conditions that we've seen outside the U.S. as of roughly the same order of magnitude that we witnessed in the U.S.?

MR. SHEETS. Yes.

MR. PLOSSER. And would you say that there's not a great differential between what's going on in the U.S. and what's going on in the countries that are the most important for our growth? In other words, would you say that they've improved by roughly the same order of magnitude that we have?

MR. SHEETS. I would say yes, by a similar order of magnitude, but with the footnote that perhaps the headwinds in some of the emerging-market economies are not as great because their financial institutions have not been as affected by this crisis.

MR. PLOSSER. Thank you very much.

CHAIRMAN BERNANKE. Governor Kohn, you had a two-hander?

MR. KOHN. I was going to make the last point that Nathan just made. We heard it from the BIS. I think that some of the emerging-market economies felt that their financial markets were coming back very quickly, and inflows of capital were resuming and, if anything, they were beginning to get concerned about rising asset prices. I guess this applies to Australia as well to the emerging-market economies in Asia.

CHAIRMAN BERNANKE. Thank you. President Evans.

MR. EVANS. Thank you, Mr. Chairman. Dave, this is probably more of an observation than a question. The alternative scenarios often present very interesting possibilities, and two that caught my eye this time were, one, the earlier liftoff and, two, greater disinflation. These are diametrically opposed. On the one hand, early liftoff has the inflation rate going to 2.8 percent in 2013, whereas greater disinflation has it at 0 percent during that time frame. Looking at the confidence intervals, they're both outside of 90 percent during those time periods, so I take it you don't see either of those as particularly likely. But I guess the question is: When can we know that we can take one of these off the table? What type of explanation would you be looking for there?

MR. STOCKTON. I suspect it will be a while before that occurs. I think what we're trying to illustrate is that thinking about the evolution of inflation expectations going forward is critical, and we don't have a very good grasp in the current environment of what might be driving those inflation expectations.

Now, the accelerationist Phillips curve—the faster, greater disinflation scenario—basically follows pretty closely the kind of disinflation you might get out of a backward-looking

Phillips curve that fits the data, though not perfectly, over the past with some reasonable degree of accuracy. But implicit in that is a very substantial decline in inflation expectations. So the staff has been surprised that we've gone through a year in which the unemployment rate has risen as rapidly as it has, and we've really seen no signs that inflation expectations are breaking to the downside.

On the other hand, there's the earlier liftoff. A number of you have expressed concerns that, given the current setting of policy, or the size of the balance sheet, inflation expectations could be unleashed to the upside. So that scenario considers what happens if we get a faster recovery in a world in which policy is not being tightened aggressively. Specifically, could you get some significant upward shift in inflation expectations? It seems possible.

I think you're right that we don't see either of those two extreme outcomes as the most likely, but I don't see any alternative other than to monitor very carefully what's happening on the inflation expectation side and, going forward, obviously to look at all of the price and wage data and so forth that would be important. But I'd consider expectations to be pretty central to that process.

MR. EVANS. Okay. Thanks. Very well done.

CHAIRMAN BERNANKE. Thank you. President Lockhart.

MR. LOCKHART. I have a question for Nathan regarding the dollar, and it relates to your tracking the tone of the market over the intermeeting period. Yes, the dollar has stabilized in the last few days, but two or three weeks ago it was under pretty severe pressure. I know it's a tremendous exaggeration, but one begins to think about the dollar in a rout of some kind—the markets really selling off strongly—and, at least in theory, that could produce some response on our part. How do you follow and think about the dollar and, as I call it, the tone of the market? Are you in touch with people in the market, or are we just tracking it more quantitatively?

MR. SHEETS. Let me give some background. From July of 2008 through early March of this year, the broad index of the dollar appreciated by about 20 percent. Since early March, the dollar has given back about two-thirds of that strength. The story that we’ve told—and I think it continues to be the most compelling story—is that that appreciation of the dollar was driven by a sharp increase in risk aversion and risk appetite as people moved en masse into Treasuries; then, over the last six months, as conditions have improved, there’s been an unwinding of some of those risk-related flows, and the dollar has, accordingly, depreciated. We’ve also seen rather marked appreciations of a number of emerging market economy exchange rates, which would be consistent with the story that folks are more comfortable taking on risk.

Now, specifically over the intermeeting period, we continue to hear this story about increased risk aversion. A lot of attention was paid to the bilateral rate with the euro—the dollar did fall quite a bit over the intermeeting period against the euro—but there was an offset to that due to an appreciation against the pound and against the Mexican peso. So all in all, the overall move was relatively limited. Nevertheless, tone is tone, and we continue to pay attention to it. I have to say that I firmly believe that the dollar is traded in a market, and sometimes it’s going to go up and sometimes it’s going to go down.

Ultimately, if the United States pursues sound policies, in my view, there will be attractive investment opportunities here, and that will support the dollar over the medium term. But it’s our responsibility to make sure that those sound and strong policies are being put in place. So all in all, I’m not too concerned so far. But it’s something that we have to monitor very closely, and we need to pay attention to what we're hearing. Why is the dollar falling? Is it a lack of confidence in U.S. policymakers, particularly on the fiscal side? You hear murmurs from time to time that that's a concern. So the fiscal situation is certainly something that's weighing on the dollar. But, why is it going down? It's the tone of U.S. policies, and it's imperative that U.S. policies be able to deliver an array of investment opportunities so that we'll be attractive for international investors.

CHAIRMAN BERNANKE. Nathan, I think it's worth pointing out, though, that the behavior of the yields on Treasuries is a little bit inconsistent with this whole story and gives us something of a puzzle.

MR. SHEETS. Indeed.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. Mr. Chairman, if I can, I just want to compliment the presenters. Over the last five years the quality of these presentations gets better and better. I particularly want to tip my hat—no offense Dave—to Nathan, because the understanding of these global interlinkages—without taking anything away from your predecessors—is far more erudite than it was before. I much appreciate it.

My question is about productivity. I would expect that globalization would have an impact on enhancing the productivity of our own economy here at home, and I deduce from listening to my corporate interlocutors that, indeed, they have been driving to achieve greater productivity as they have worked their way through this recession. I infer from the numbers I get from my staff that, indeed, productivity has held up rather well throughout this recession and, in fact, perhaps better than it has in previous U.S. recessions. So my question is: How does this affect your outlook for the pace of recovery and for inflation, if my assumption is correct?

MR. STOCKTON. In terms of the productivity in the United States, we have been surprised in the first half of this year by its strength. Our interpretation was largely that, as things started to collapse late last year, firms were a bit slow to cut payrolls. Even though those cuts were huge, they were, in fact, fairly modest, relative to the size of the output declines, so we got a little cyclical downswing in productivity. Since the first half of this year, firms have been exceedingly aggressive at cutting costs and extracting higher productivity gains. In this forecast, we're interpreting that as firms squeezing their work forces currently very hard and as being unlikely to let up quickly on that. But we do think there's going to be a gradual return. Productivity is now probably above what we think the structural trend would be, and there will be some return to that structural trend slowly through a slowdown in the growth of productivity going forward. Firms won't be able to continue to extract the 4, 5, and 6 percent increases in productivity that they've gotten in recent quarters; it's likely to slow down to more like 1½ percent.

That's an important risk in the outlook, because it's clear that if, in fact, we were to have another year or two of gains in productivity that average close to 4 percent, we would be looking at something that looked more like a jobless recovery. Even though GDP growth might look reasonably well sustained, it would be with less employment growth and a higher unemployment rate than is incorporated in the baseline forecast. Why haven't we put that into the baseline forecast? At this point I think that's a serious issue and one that we're going to have to confront if, in fact, productivity stays as high as it has been recently. I guess we're just reluctant at this point to interpret what's happened over the course of the past two years as a big, positive supply shock to the U.S. economy. It's possible there's some sort of X-efficiency operating where businesses are under incredible pressure, and they'll learn to do things differently, and they'll continue to learn to do things more effectively in the future. But right now, I think we're staying agnostic about whether this is a negative or positive supply shock. We resisted marking down our potential output a whole lot when the crisis first began and people were talking about a big negative supply shock. In retrospect, I think that still was a pretty good call, but we're also reluctant to think that we're going to get a big increase in sustained productivity growth going forward—but it's possible. And I think a jobless recovery that's generated through both faster productivity and maybe somewhat longer work weeks for workers is a real risk to the outlook.

MR. FISHER. Thank you.

CHAIRMAN BERNANKE. Thank you. Other questions? (No response.) Okay, seeing none, why don't we begin our economic go-round? And President Lockhart, you're the leadoff hitter.

MR. LOCKHART. Thank you, Mr. Chairman. First I have just a quick comment to Dave Stockton. Because of our trade policy, chicken entrails could back up in Georgia, and if you want to change your policy on that, we can help. [Laughter]

MR. STOCKTON. I've got to take a look, I guess.

MR. LOCKHART. Much like the Greenbook, my views have moved in the direction of greater optimism since the last Committee meeting in August. The incoming data have been a little stronger than were anticipated then. At this late September juncture, I think the picture can be characterized as improving, but still with very mixed vital signs, and the outlook is somewhat more optimistic but tempered by awareness that this is an economy powered by a large number of government supports. I agree with all who are declaring that a technical recovery is under way, but it is a tentative recovery, not well established. Even with the improving data, I think there is substantial uncertainty around the question of whether the recovery has its own legs or is propelled by transitory government programs. Governor Tarullo in the last meeting talked about a relapse scenario. I see the economy as still vulnerable to relapse.

Over the last two weeks, our Sixth District contacts provided a lot of support for this view of the current reality. Sixth District realtors and homebuilders reported that the first-time homebuyer subsidy noticeably boosted new home sales and construction of moderately priced properties. The "cash-for-clunkers" program provided a big lift to Southeast auto dealers and cut deeply into new car inventories. In response to the Board's request, our regional executives contacted six state budget officials. They told us that the stimulus money, as intended, has helped support construction activity, but it represents spending that would have been cut or funded by running down rainy day funds. This input supports the view that stimulus spending is mainly eliminating a negative in the outlook.

In this contact cycle involving directors and other business leaders, we tried to probe their sense of factors critical to transitioning from government support to sustained growth based on private demand. Our business contacts said that the inventory drawdown is slowing but may not be followed by an increase even as sales increase. As the Chairman pointed out at the last meeting, in the near term, inventories don't have to rise to improve economic growth, they just have to fall more slowly. Nonetheless, we're hearing claims on the part of some businesspeople of permanent adjustments to inventory requirements and businesses. Apart from a modest rise in back-to-school spending, general merchandise retailers reported continuing restrained consumer demand. Transport firms reported very little in the way of increased activity, and the Sixth District survey of purchasing managers reveals a drop in new orders and production after more promising numbers in July.

As regards employment, we heard that layoffs have subsided, but there is no indication yet that firms anticipate hiring. In summary, the nascent optimism expressed by my contacts just before the last FOMC meeting has been supplanted with unease over the economy as the influence of public support programs diminishes.

We are revising up our third-quarter GDP estimate and are inclined to do the same for the fourth quarter, but in comparison with the Greenbook, I remain much less bullish about 2010 and 2011. There are reasons at this juncture to question whether the economy will have healed enough for a significant expansion of private demand. I would cite several factors likely to weigh on the economy through the medium term: high unemployment, cautious business investment, diminished consumer finance, the potential drag on the banking system from commercial real estate, the slow repair of the banking system, and slow-moving adjustments, such as intersectoral labor movements.

Regarding prices, the incoming data show disinflation to be more persistent and more broad-based than the Atlanta bank put in its last forecast submission. I think these disinflation trends bear watching, but at the moment, I still judge inflation risks to be roughly balanced.

As regards growth, the incoming data have clearly been more positive, and I would judge the balance of risks to be more balanced than was my view in August. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. Business conditions in the Third District continue to indicate generally sluggish activity, and nonresidential investment remains soft. Nevertheless, a number of positive trends have begun to emerge. Our September Business Outlook Survey index of general activity came in quite a bit stronger than it did in August. The gain was primarily driven by increases in shipments. It's hard to parse out what part of this increase in shipments was due to drawn down inventories and what part was new production. Most likely it was some of both. This rise in the index seems consistent with the general signals of improvement in manufacturing coming from other regions of the country, even Richmond.

Prices paid and received by manufacturers in our region seem to have firmed a bit, as well. The BOS current prices paid and current prices received indexes have all been positive for the last two months. In fact, the index for prices expected to be paid six months from now will increase to a number over 40, a very high number. Manufacturers thus seem to be more attuned to the prospects of higher prices than falling prices. These data might mitigate some of our concerns about the risk of deflation or deflationary expectations taking hold.

As in the nation as a whole, employment has continue to fall in our three-state area, though the pace of decline has lessened somewhat, as it has in the nation. The BOS future employment index rose in September and has been positive for five consecutive months. Evidence is mounting that the employment level in the three-state area is at or near the bottom.

Overall, conditions in the Third District look slightly better than they were six weeks ago, and signs are pointing to a gradual strengthening of economic activity in the coming months. On the national level, the data we have received since our last meeting are indicative of an economy where recovery is gradually taking hold, and it now appears that the worst of this recession is quite likely behind us. We are, in my view, in the midst of that transition period from contraction to expansion. The level of employment is still depressed, but, given the trends in job-loss and job-finding rates, it seems to me that we can begin to expect employment to increase and growth to return in the near term. The signs of financial stress that also concerned us so much this time last year have greatly abated, as we've discussed.

While these indicators are not all back to their pre-crisis levels, they are about where I would expect, given the current state of the economy and economic conditions more broadly. The bottom line is that current economic conditions are much better than they were, and they are better than what we and many private-sector forecasters were expecting just a few months ago. They underpin a substantial upward revision in near-term GDP forecasts both from the Greenbook and from many private-sector forecasters.

However, I remain highly skeptical of the staff's forecast regarding inflation, which, by and large, has been unaffected by the upward revisions to growth in their forecast. In particular, I continue to see stronger inflationary pressures over the next few years than is implicit in the Greenbook forecast. Many other forecasters also see more inflation than is in the Greenbook. For example, the Greenbook 2010 CPI forecast is below both the average and the median CPI forecast among the fifty-two forecasters in the September Blue Chip consensus. I think we need to consider seriously that there are upside risks to inflation, particularly to the staff's forecast of inflation, when we think about policy.

Let me discuss why I have some concerns about the inflation outlook. First, it's quite clear from the staff's write-up that forecasted inflation paths depend importantly on inflation expectations, as Dave Stockton mentioned. With those expectations well anchored, estimates of economic slack going forward become virtually the sole determinant of the path of inflation in the forecast. The forecast anchors those expectations at 2 percent, which is lower than the readings of inflation expectations that we have been receiving. In particular, while they seem to be anchored, longer-term expectations of inflation as measured by surveys are still in the 3 percent range. My own view on longer-term inflation expectations is closer to the public's, as reflected in those various surveys, than the staff's.

The dependence of the staff's inflation outlook on inflation expectations remaining anchored over the forecast horizon brings to the fore my second concern with the Greenbook outlook on inflation. In my way of thinking, expectations of future inflation will ultimately depend on the public's expectation about the future path of monetary stimulus. In the Greenbook forecast, the funds rate is held constant at least through the end of 2011 and probably into 2012, while the public seems to believe we'll be raising the funds rate by the middle of next year. Clearly, there is more monetary stimulus built into the Greenbook forecast than the public currently expects. If we were to endow the public with this knowledge, I seriously doubt that inflation expectations will stay near 2 percent. Thus, the Greenbook assumption of longer-term expectations being anchored at 2 percent over the forecast horizon seems to me at odds with this divergence between the market's expectation of policy and the proposed policy path in the Greenbook. Inflation expectations could rise in this context and could easily overwhelm the effects of economic slack that the Greenbook relies so heavily upon for its forecast.

My third concern is the fact that the model underlying the Greenbook forecast does not appear to depend explicitly on forecasts of liquidity or other quantities in the banking system, such as forecasts of excess reserves, required reserves, or loans. And despite the results of the consultation with banks that we heard about earlier regarding the high reserve balances and the simulation exercise, it seems only a matter of time before those huge reserves in our banking system begin to flow out into the economy, particularly with growth rates at the level that they are. And that time may come sooner than many people think, given the upward revisions in our forecast. Needless to say, this outflow will not have an immediate effect on current inflation, but expectations of inflation may become more sensitive to such a rapid increase in liquidity. Nevertheless, the outflow will undoubtedly create the preconditions for an eventual rise in inflation expectations and inflation. We need to be prepared to soak up those excess reserves, as we've been discussing.

Of course, knowing when to raise rates and when to reverse course is always a challenge, but it will be more difficult in this complex environment, as we are near the zero bound. That brings me to my fourth concern. While I believe that we have a range of tools to control excess reserves and reserves in general, including interest rates on reserves, asset sales, and some of the other techniques we talked about this afternoon, I think we still have some work to do to figure out what the right metrics are that we need to be looking at that will signal to us when the time is right. For instance, as I noted in my question to Bill English, I find it curious that Treasury yields fell over this intermeeting period, given the better-than-expected economic data. A staff memo on high reserve balances noted that at least one respondent adjusted their reserve balances downward, and another was getting ready to make adjustments. Could these yields be a result of downward pressure from cash equivalents to induce reserve demand to equal reserve supply? Yields abroad fell, too, but foreign central banks are also providing high levels of liquidity. What implications does this have for the increase in reserves that will follow on the heels of our increased MBS purchases? What implications does it have for inflation expectations? Is a small rise in the inflation compensation in five-year forwards over the past few weeks a precursor to that in the near future?

My final concern has to do with the reduction in the Treasury's SFP balances and how this Committee plans to address that. The staff estimates that the reduction in the SFP program will add about $200 billion in excess reserves to our balance sheet. If we choose not to sterilize this expansion in reserves, I think this additional source of stimulus will add upside risks to inflation. Even if one believes that the reduction in the SFP program is temporary, as the balance sheet projections assume, there doesn't seem to be any reason for us not to sterilize this increase by reducing our own LSAP program. When and if the SFP rises again—and I'm not sure we want to encourage it to rise again, for that matter, from an independence point of view—we can alter our approaches if we deem it appropriate. The amount of stimulus we apply to the economy should remain the decision of this Committee and not be passive or be choices made at the Treasury.

The bottom line for me is this. Given the amount of stimulus that's in the forecast, given the size of the balance sheet and excess reserves, given the uncertainty regarding our ability to know when to act, I largely see only upside risks to inflation relative to the latest Greenbook forecast. Based on these concerns about the forecasted paths of inflation, my views on appropriate policy are fundamentally different from those underlying the policy assumptions in the Greenbook. Maintaining a funds rate so close to zero for so many years, in my view, can only reignite significant inflation. Moreover, given the lags between policy actions and the surfacing of inflation, we will have to act well before inflation pressures become evident. Otherwise we will be too late, risking both inflation and our credibility. I believe we could have helped our own cause by adopting an explicit inflation target, but I fear we have missed the opportunity to advance that initiative when deflation fears were more widespread among the public and Congress. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. The change in the Greenbook forecast for this meeting was really quite striking. There were marked improvements in consumer spending, equipment and software, and residential investment for the remainder of the year, and it is notable to me that the improvement is carried through over the forecast horizon. The turn in housing, for example, extends beyond the expiration of the homebuyer credit. I haven't been at this long, but I haven't seen many revisions this large. It strikes me that they are well supported by the data we've seen since the last meeting. Almost every indicator has surprised to the upside, and, taken together, they paint a picture that looks more like the beginning of the recovery than an economy trying to find where the bottom is.

There are abundant reasons for caution, however, as one would expect at this stage in the business cycle. Perhaps chief among these is the labor market, which does look like it's trying to find a bottom. We have seen definite improvement in the rate of change in employment, but I would feel more comfortable if the weekly claims numbers were falling a bit faster. I think uncertainty about the labor market poses obvious questions about how hardy consumer spending is going to be in the next few quarters. Uncertainty about compensation growth poses similar questions. The Greenbook has marked up its forecast here as well, based on the notion that the weakness we've seen represents a one-time level adjustment, and that strikes me as quite plausible, but it will be great to see that in the numbers.

The picture in the Fifth District is broadly similar to the national outlook, and I describe it as signs of improvement tempered by pervasive caution. Our manufacturing index, which five months ago was the first among the regional surveys to venture into positive territory, held steady this month at 14. Of particular note, the employment component moved into positive territory for the first time this month, as did expectations of manufacturing employment six months ahead. While our services index remained in negative territory also, overall it has also shown some recent recovery, especially on the retail side, where sales revenue and shopper traffic showed big improvements. Service sector wages, both retail and nonretail, also showed their first positive reading since the beginning of the recession.

The anecdotal information from around the District also has a cautious tone amid signs of improvement. Suppliers of auto components report a significant uptick in industry demand. A large packaging manufacturer reported a surprising surge in August sales. Other contacts, however, report delays in investment projects due to uncertainty about the economic and political climate. Commercial real estate continues to soften. Contacts expect construction to be lower for the next two years, with the exception of the Washington area, where several federal agencies are embarking on building projects, apparently. One large electric utility reports slower hiring because their current workers are staying on rather than retiring as they had planned.

On inflation, I agree with the Greenbook's assessment that the relative stability in the core is due largely to the stability of expectations. It depends, in turn, of course, on the stability of expectations about future policy, as President Plosser pointed out, and that makes the large discrepancy that he commented on between market expectations and the Greenbook's assumption regarding the funds rate something of a problem. Personally, I think the market expectations are a bit closer to the mark.

What's happening in banking and financial markets since the last meeting is pretty striking, too, I think. At a time when economic reports have generally surprised on the upside, interest rates have trended down—the six-month rate, for example, went from 28 basis points to 20. You would have thought that rates would have risen instead, in response to the good economic news. Bill English was discussing interpretations of this downward shift in the yield curve. I would point out we were buying all across the spectrum, so the combination of our purchases and quantitative easing—some mix of those two—could easily have been operative.

At our last two meetings, I'd been suggesting that we may start to see quantitative easing effects when our asset purchases completely displace short-term liquidity borrowing to the banking system. But over the past intermeeting period, our asset purchases have been only partially offset by reductions in short-term borrowing, if you take this point of view. Our security holdings increased $191 billion, and our reserve balances increased $101 billion. And in comparison over the previous intermeeting period, our security holdings increased by $149 billion, but reserve balances actually shrank. Combining the behavior of borrowing with the increase in reserve balances and the decrease in interest rates suggests that we might already be seeing some quantitative easing as a result of our asset purchases.

I’d note that, in the period from February to May of this year, we had a similar increase in reserve holdings and a similar decrease in interest rates—the six-month rate, for example, went from 46 basis points down to 30—and at that time bank demand for reserves seemed to be increasing; an anecdotal report suggested that preparation for the announcement of the stress test results, or the conclusion of the stress test, was inducing banks to build up bigger liquidity buffers. This only partially offsetting effect that we might be seeing could occur if some banks are using us for wholesale funding rather than as a source of just getting the reserve balances they need. Some short-term borrowing is for up to three months, and that means delays in adjustments in response to our asset purchases, and for both those reasons, banking system borrowings might not shrink dollar for dollar with our asset purchases.

Therefore, it looks to me as if there’s a good chance quantitative easing may have actually begun since the last meeting. But even if that is not true, we’re certain to cross that line soon, because the Desk has made $131 billion in MBS purchases that haven’t settled yet, and the supplementary financing program is going to run down by about $185 billion. So that’s $316 billion in additional reserves, even if we don’t purchase any more MBS, that are going to be added to the banking system.

From my perspective, every additional purchase from here on out represents additional monetary stimulus, and it's as if we were continuing to cut interest rates. If you look at Bill English's first chart, it's going to take bank reserves well outside of its range over the last year or so. Now, if we were working with interest rates, and the fed funds rate were, say, 1 percent and we had the same macro data up until this meeting that we'd seen, I have a hard time thinking we would cut rates, given the improvement we've just seen in the economy. I realize that's open to debate, and we can discuss that. But because of that, I'm not sure how I feel about additional MBS purchases, that is, whether it's a good idea to add that stimulus right now. I'm looking forward to hearing people's views about the economy and these MBS purchases. But in any event, I think we should avoid making any commitments at this meeting to the amount of asset purchases, particularly for our agency MBS. We haven't made any public commitment so far. Our statements have always said "up to," and they've always said that we're monitoring the size and composition of our balance sheet and will make adjustments to our credit and liquidity programs as warranted, right near the end of the statement. I think we could get to the next meeting and decide additional monetary stimulus is unwarranted, and I think in that case we could want to finish up our agency MBS program before we get to the full amount. So that's where I am, Mr. Chairman. Thank you.

CHAIRMAN BERNANKE. Thank you. President Rosengren.

MR. ROSENGREN. Thank you, Mr. Chairman. The incoming data since the last meeting give us more confidence that the economy is now recovering from the recession and the second half of this year will have positive economic growth. But I expect near-term growth to be insufficient to make much progress on the very weak labor markets. Most heartening have been clear signals we're receiving indicating a bottoming out in housing markets. Like many markets, Boston has seen some increases in housing pricing, particularly for homes that are attractive to buyers looking to use the government's first-time homebuyer tax credit.

The disinflation that the Greenbook has been forecasting is being borne out by the data. Core PCE inflation for the past year is 1.4 percent, significantly below the previous year and well below where most of us expect the inflation rate to settle in the longer run. According to the Survey of Professional Forecasters, the mean probability that the core PCE inflation is below 1½ percent in 2010 is 50 percent, with only a 12 percent mean probability attached to a core PCE inflation exceeding 2.4 percent. While some market analysts cite the expansion of the Federal Reserve balance sheet as being inflationary, I do not believe that this poses much of a short-run risk. While we do not have recent historical experience in the United States with the effect of rapid growth in the central bank balance sheet, the experience in Japan is instructive. Even with their substantial quantitative easing program, the Bank of Japan has been fighting deflation rather than inflation for the past decade. Despite the rapid growth in bank reserves in Japan, the banking system was shrinking as banks reduced lending to satisfy capital constraints. It seems unlikely that the expansion of the Federal Reserve balance sheet will have near-term inflationary implications for reasons similar to those in Japan. Despite the buildup in U.S. bank reserves, bank lending remains constrained and is likely to be capital constrained for some time. Thus, like the Greenbook, I expect that lower labor costs and the substantial slack in the economy will continue to generate disinflation, and, thus, over the next two years, we will likely be moving further below my inflation target of 2 percent.

Discussions with bankers in New England are consistent with the data showing continuing significant declines in lending. Their biggest concern is with commercial real estate loans, where falling prices are making banks increasingly reluctant to lend. One very large builder highlighted the fact that, although construction costs and the costs of labor have declined, those cost reductions have not kept pace with the fall in prices of existing buildings. Bankers are concerned with how commercial real estate loans will be treated at their next exam. The mounting commercial real estate problems, along with nonperforming loans that are growing faster than reserves at many banks, make it increasingly unlikely that we will see much improvement in credit availability from banks in the coming year.

While the real economy is improving, the robustness of private-sector growth once the government programs wind down is still uncertain and poses additional downside risk. More importantly, the unemployment rate is likely to remain uncomfortably high and inflation well below my target for the next several years. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Fisher.

MR. FISHER. Mr. Chairman, in the Eleventh District, retail sales remain anemic. Weakness in energy due to lower natural gas prices continues to be a drag on the Texas, New Mexico, and Louisiana economies, and commercial real estate remains mired in significant distress. But there are some positive numbers that have been reported. Private-sector jobs grew in July, and then pulled back a little bit in August. Initial unemployment claims continued to decline. There are signs of improvement in the temporary staffing market. Reflecting the activity that Nathan reported, exports—and Texas is the largest exporting state—rose in July for the second consecutive month; they're up slightly in Q2. Existing home sales are up through July. There's actually a slight pickup in home construction as new home inventory levels stabilize. And we have a leading index that was up on all components, making positive contributions at the last measurement.

Now, realizing that it may not be the case that "as goes Texas, so goes the galaxy" or "so goes the globe," still, there are some glimpses of sunlight that come through from our anecdotal soundings and from the CEOs that I have talked to—the list of which I provide you before every meeting, Mr. Chairman. Distillate consumption, which is strongly correlated with industrial activity, has picked up at least slightly. And I note that electricity generation is also up slightly, which is a positive. On the consumer side, Mastercard's internal data were positive in terms of sales activity for the week of September 7, for the first time since October 30, 2008. The broadcasters report that advertising is creeping back up. In part, this is Ed Whitacre's ego. There's also political advertising on health care, but, more generally, it's getting away from the trial lawyers and the lesser advertisers that we have seen and moving toward more general, normal, economic activity. The semiconductors report a pickup in demand, which I find quite interesting. According to Texas Instruments, for example, in the first quarter customers actually reduced their original orders by 7 percent. In the second quarter, they shipped 31 percent over their original order base, which indicates a rush to cover either inventory shortfalls or perhaps demand—they're not sure which. And, as of last night, their shipments in the third quarter are exceeding the original orders by 29 percent. And, lastly, an odd positive to the recession, is that Wal-Mart reports that pilferage or internal theft is down 20 percent for fear of people losing their jobs.

Despite those positive indicators and the aggregate data which we have heard presented by others and at this table, I would summarize the mood of my interlocutors as being wary of the purported recovery. They see some improvement in the statistics that they read about elsewhere, but, based on their own experience, they doubt them. Some cotton to our outlook at the Dallas Fed, which is for a checkmark-shaped recovery, with less growth, as President Lockhart pointed out, in 2010 and 2011 than the staff are forecasting here at the Board. But I heard from more than I hoped that they're managing for what I would call a W-shaped recovery. And if they're wrong, they'll be relieved. More than once I heard what I consider a new management bias described as being based on "process improvement" or "cost take-out" or "margin repair." This is the kind of nomenclature that now is ubiquitous amongst McKinsey and Bain consultants, who up until last summer were flogging techniques to enhance top-line improvement through pricing power.

Our own measure at the Dallas Fed of global capacity utilization shows record lows. It indicates that for some time incremental demand will be met by utilizing a greater share of existing capital rather than investing in new equipment or buildings. And I can't find a single sector where a leading CEO is budgeting to do anything other than to contain costs and only commit to vital and minimal cap ex in 2010.

So, Mr. Chairman, that's how it looks from a microeconomic perch. It's undoubtedly imperfect, but I think it's illustrative. There's a disconnect between the way that the women and men who are managing the businesses of the United States view the economy and the aggregate data. And I don't know how we will join that disconnect, but it's clearly there. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. What's the difference between a checkmark recovery and a V recovery?

MR. FISHER. The slope of the right side, from my perspective.

CHAIRMAN BERNANKE. I see.

MR. FISHER. It's a Nike swoosh. [Laughter] This actually goes to the point that President Plosser made, and I'm going to take advantage of your question. Of course. Thank you for asking. We are eliminating a lot of negatives, as President Plosser said. We're beginning to accentuate some positives. We do have a snapback. We had a very sharp decline. The question is the rate of growth going forward. And given the way businesses are managing and structuring their budgets going forward, the way they are wringing productivity—I think those are your words, Dave —out of their workers, I expect that final demand will be somewhat anemic. So it's not a sharp V. And going further out, after you come through the check on the checkmark, I expect a slower rate of growth.

CHAIRMAN BERNANKE. You don't go with a square root sign, though. [Laughter]

MR. FISHER. I have been informed it's something that I fear. Actually, Mr. Chairman, I think this is a problem. Our tail risks are almost undefinable. We could have that. We could also have the kind of explosive growth that Dave was talking about earlier. And I would like to hear, as you know, more decision tree analysis as to how we would respond from a policy perspective under all three scenarios. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. The Eighth District economy performed somewhat better than the U.S. economy as a whole during the summer. According to our calculations, 16 metropolitan statistical areas in the Eighth District actually had slightly positive June–July job growth. As you know, the U.S. remained negative as a whole, of course. Some of this reflected auto production recalls, but generally I took it as a positive sign for the Eighth District economy. In fact, job growth has been less negative in 2009, generally, for the Eighth District versus the nation.

However, anecdotal information does not line up with the national forecast for growth in the second half of 2009, and here I would agree completely with President Fisher. A general comment from directors and business contacts is: "There's official talk about recovery, but we don't see recovery in our businesses. And we're not planning on recovery, and we're hunkering down." I find that somewhat worrisome, because it is ubiquitous, and because we're already at the end of the third quarter. I would have expected to hear more positive anecdotes coming from the July–August–September period. It could be that these contacts are not seeing a return to previous levels. It's always a little hard to interpret when you're talking to businesspeople. They may only be seeing stabilization at a low level, and they're thinking back to the good old days when they had much higher levels. I did get just a few firms reporting that they're more optimistic now and are seeing better business conditions, to the point where they might consider additional cap ex. One firm was in health care, and another was in transportation.

On the national outlook, I agree that the U.S. economy is poised to return to growth after a year of declining GDP. I am anxious, as many of you probably are, to actually see positive growth as opposed to just market anticipation of that growth or macro forecasts of that growth. The current scenario does seem quite a bit stronger than some of the darker scenarios from earlier this year when we took aggressive policy actions. I hope that what we're seeing is a durable bottoming out in housing, and I do find it heartening that the recovery internationally has been stronger than expected. I was one who was consistently worried that the global nature of this recession might present special problems for the FOMC, but I think that worry has subsided somewhat, as the bounceback in Europe and emerging Asia and elsewhere has been very strong, or stronger than expected.

I remain worried about inflation expectations over the medium term. Of course, we have lots of surveys and market-based measures of these expectations. They seem to be well anchored. However, I'm worried that these may not be that informative. I think the typical market participants or survey respondents are effectively saying that the policy looks a little bit crazy, but they kind of trust us to get the right inflation in the end. And so they say, “Okay, I will predict 2 percent, even though I can’t really see how you guys are going to do it.” I think that is what’s going on with a lot of the market-based measures and the survey measures.

Let me just follow up on this. It seems to me that people who hang around central banking and financial markets really don’t know what to think about the unconventional policies that our Committee is pursuing. And I’m not sure, really, that we know ourselves what to make of these policies, because we don’t have models or a lot of experience with them. So the situation is that informed opinion is all over the map—you do see that when you talk to people in financial markets. I think that creates a risky situation for the FOMC. It may appear, based on surveys, that expectations are well anchored, but it’s masking a real uncertainty that’s out there. Some people think there might be a lot of deflation, and some people think there might be a lot of inflation, and they’re not sure what to think.

In conjunction with this, I’m concerned that current policies do not have a clear state-contingent aspect to them. The last 25 years of macroeconomics has argued that good optimal policy reacts to shocks, reacts to the incoming information on the economy. The canonical Taylor rule is one way to do that. But no matter what policy you want to pursue, you would want to have the state-contingent character to it. How this reaction occurs needs to be communicated to markets. That informs the market pricing and the interest rates today, so it does matter what people think your future policy is going to be, and that means some kind of mapping to how you are going to react to future shocks. Those expectations, then, complete the equilibrium, and that’s how the equilibrium is supported.

I’m concerned that we’re not doing that effectively right now. At this meeting, we’re seeing that the outlook has improved substantially over what we thought earlier in the year. But we’re going to largely continue, based on previous decisions, without very much explicit reaction to the change in circumstances. That doesn’t sound like the optimal state-contingent policy we need. And we’re not communicating because, I think, we don’t know how we might adjust in the future. So it strikes me that this is an area where current policy could be improved. If we could make adjustments in that direction, I think the benefits would include a more effective program for us and better economic performance for the nation. Thank you.

CHAIRMAN BERNANKE. Thanks. On state contingency, I think I should just raise the possibility of corner solutions. If you have a constraint, you could be up against that constraint—it wouldn’t be state contingent in that case. Although we want to talk about future policy, and so on, but in terms of your actual instrument—

MR. BULLARD. Do you mean that we’re at the zero bound?

CHAIRMAN BERNANKE. Yes, for example.

MR. BULLARD. Definitely at the zero bound. We’ve got other policies, though. We could tell markets how we’re going to adjust. Let’s suppose we get bad news in the January–February–March period, and the economy didn’t turn out the way we had hoped. Markets would like to know now, if we got in that situation, how we’d react. And I just don’t think we’re ready to tell them, but we’d like to be able to tell them as part of an optimal policy.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. That’s a more eloquent way of stating what I was referring to earlier—or, at least, if not stating it, understanding internally how we would respond under different circumstances.

CHAIRMAN BERNANKE. Okay. Thank you. President Evans.

MR. EVANS. Thank you, Mr. Chairman. My forecast has not changed materially. I guess we were a little ahead of the Greenbook. We are still looking for GDP growth to average about 3 percent over the next six quarters and then pick up to a pace more noticeably above potential in 2011. Virtually all of my directors and business contacts reported continued improvement and modest firming of recent positive developments. Clearly, the evidence that the recovery is underway is getting stronger each month. But many contacts also offered another more guarded flavor of commentary, probably along the lines of what President Fisher said. Now that the fear of a truly awful outcome has receded, businesses are increasingly coming to grips with the realization that, even though recovery is under way, it's likely to be a slow one, with the unemployment rate remaining high for some time. The weak labor market will weigh on their customers' confidence, businesses' planning, and the strength and momentum of near-term expansion. This guardedness is a natural reaction to events. By itself, I don't think it's an independent cause for concern, but it's something to be mindful of.

I will just touch quickly on some of the high points from my economic reports. Inventory restocking is clearly under way and is boosting production. The implications for hiring are mixed. The business segments that were hardest hit cut employment most deeply, and now we are bringing back some workers as they increase utilization. But most others who cut less deeply are not hiring yet. Many business contacts stated that the recovery's momentum will be most uncertain in the first half of 2010 following the inventory restocking. Reports of improvements in financial and credit conditions were widespread. Several contacts involved in commercial real estate markets even reported substantial progress. All in all, my discussions seemed consistent with an economy expected to grow for 18 months at a pace of about 3 percent. This tepid growth is from the bottom of a very deep recession and leaves the unemployment rate remaining above 9 percent during this phase of the recovery.

While there does not seem to be much disagreement over this outlook for the economy, I continue to be surprised by the lack of agreement over the implications of the resulting measures of resource slack for inflation. So let's see what I can add here. I think I understand the arguments implicit in last week's communications from Presidents Plosser and Lacker on the Bluebook policy alternatives, as well as some public commentary about resource slack. These arguments I think of roughly like this. First, theory says inflation is a monetary phenomenon. I think we all agree with that. Second, resource slack has tenuous and arguable implications for inflation and is measured with great uncertainty. And, finally, many economists reject resource slack implications because of these concerns.

But it's an enormous leap to ignore entirely all measures of resource slack. Output gaps are not unique in being unobservable and difficult to measure. Inflation expectations are very important and are equally unobservable, heterogeneous, and the measures often are in conflict. Just look at variations in liquidity in the TIPS markets for the compensation measures that we look at. If you look carefully at the Michigan survey and think about how the survey participants respond, there are biases, the data are censored and massaged quite a lot—we know we can't get the levels of inflation expectations right, either. As I looked at inflation expectations data in Part 2 of the Greenbook, the Survey of Professional Forecasters had 2.2 percent for ten years ahead, Michigan had 2.9, the TIPS at the five-year five-year had 2.9. And these are all greater than our implicit target of 2 percent, but when I look at the charts they have been there for quite some time. So getting the levels is really tough, and looking at changes in inflation expectations is a bit of a dodge in the same way that we take the resource slack as given when we look at it.

Now, of course, the signal-to-noise ratios on our measures of resource slack are normally low; that is, noise is large. But currently all measures of slack are pointing in the same direction with large magnitudes. The unemployment rate is just about 10 percent, so the signal-to-noise ratio is much better right now. Just as importantly, I think that without the idea of substantial resource slack, it's hard to understand what has been happening to inflation and inflation expectations. Hypothetically, if the economy's need for structural adjustments explains all or most of the drop in employment and output, then why aren't inflation expectations very high and rising? In that scenario, the enormous growth in the monetary base would mean monetary policy is extraordinarily accommodative.

So something else must be keeping inflation expectations reasonably stable, another unobservable factor. Is our credibility particularly high today? Our legion of critics doesn't believe that. And if I believed that resource slack was minimal, and then looked at our balance sheet, I wouldn't think so either. Although I'm surprised that inflation expectations haven't fallen more, I strongly suspect the reason that they have stayed moderate in the face of massive monetary easing is that the public sees equally massive amounts of resource slack and expects that slack to eliminate most price pressures.

I share in calls for additional language and metrics to express the FOMC's markers on inflation pressures. I think that those comments are right on target. Such additional conditions would help guide us and communicate to the public our ability and resolve to keep inflation and inflation expectations well behaved. But currently I don't have any hesitation in including resource slack in this list of markers. It makes it tougher going back to my alma mater and talking to my advisors, but—[laughter]

That's it. Thank you.

CHAIRMAN BERNANKE. We all have to make sacrifices. [Laughter] President Yellen.

MS. YELLEN. Thank you, Mr. Chairman. I'm much more optimistic about the nascent recovery than I have been in a long while, and I no longer see the risks around my modal forecast as asymmetrically skewed to the downside. Over the last few months, conditions in a wide variety of financial markets have improved, and the economic news has been generally encouraging. Consumer spending appears to have bottomed out, and the inventory cycle, which is typically a key element in the transition dynamics from contraction to expansion, is now providing considerable impetus to activity. Even the housing and manufacturing sectors, which were hardest hit during the recession, are finally showing signs of life. To my surprise, house prices now appear to be reestablishing an upward trend. Like the Greenbook, we have revised up our expectation for their future paths.

The more positive outlook for home prices improves my confidence in the recovery for several reasons. First, the associated boost in housing wealth should have a favorable impact on consumer spending. Second, stabilization in house prices will help put a floor on the value of housing-related securities, which, in turn, should bring more clarity to the balance sheets of banks and other financial institutions. And, finally, a positive trajectory in future home prices is an essential element in changing the economics and the psychology of the housing market. Homeowners who were underwater, or close to it, are more likely to put off default and avoid foreclosure if they have some renewed prospect for house-price appreciation. And potential buyers who have been holding off waiting for the bottom in house prices may finally be coaxed into the market. In effect, the feedback loop from financial conditions to the real economy may finally be switching directions, supporting growth and even creating some upside risk.

That said, there are also downside risks. In addition to all of the risks surrounding commercial real estate, I'm concerned that some, and possibly a lot, of the improvement we've seen in the housing sector may result from policy supports that are about to unwind; in particular the first-time homebuyer tax credit, which is set to expire at the end of November, likely boosted activity, although perhaps at the cost of pulling demand from future quarters. And our MBS purchase program does appear to have lowered mortgage rates significantly. I was struck by the survey evidence from the Desk of 60 basis points. Our own estimates are a full percentage point. There's obviously a lot of uncertainty about what will happen when the program ends, but I certainly found it sobering to see that the dealers surveyed by the Desk anticipate that the impact of this program on mortgage rates will be fully reversed within six months.

Even though I now believe that a recovery has taken hold and is likely to be sustained into 2010, my perspective on policy is importantly influenced by my expectation that it will be tepid by historical standards, leaving unemployment unacceptably high for a long time to come. Consistent with experiences around the world following recessions caused by financial crises, I anticipate that it will take quite a while for the financial system to heal to the point that something like normal credit flows can be restored. In addition, even if the saving rate stabilizes and consumer spending again grows, we are not apt, given damaged household balance sheets and weak labor markets, to see the exuberant spending growth that characterized the years preceding the crisis. Moreover, I see a substantial chance that the saving rate will head higher than in the Greenbook baseline. Finally, I foresee a jobless recovery with weak employment growth and persistently high unemployment. My business contacts uniformly report that they have implemented productivity improvements in the downturn that will permit them to hold down hiring until the recovery is very well entrenched.

Turning to inflation, it will surprise no one around the table that I anticipate that the prospect of high unemployment for years to come is a key factor shaping the outlook. We must, of course, be attentive to the possibility that the NAIRU has changed, and, as I've noted in past meetings, I do think there is some evidence that the NAIRU has increased. This round, the Greenbook edged up the staff's NAIRU estimate to 5¼ percent on a temporary basis, in light of the large number of permanent layoffs taking place and a possible shift in the Beveridge curve. I could quibble with these adjustments, but any fraction of a percentage point increase in the level of the NAIRU pales in size relative to the 5 percentage point jump in the unemployment rate over the past two years. Under any reasonable interpretation of the evidence, both labor and product markets have a considerable amount of slack. And the existence of a causal link between slack and resource utilization and wage and price inflation is not only theoretically sensible, it's also consistent with both anecdotal and econometric evidence.

To collect some anecdotal evidence, we asked all of our head office and branch directors during the intermeeting period to provide us with their assessments of the extent of slack in their industry or geographic area, and to tell us what, if any, effect such slack and other factors are having and will have on their costs and output prices going forward. Not surprisingly, our directors uniformly report that qualified job applicants are plentiful, that voluntary quits have plummeted, and that workers are thankful to have jobs and are readily accepting lower wage increases and even wage cuts. On the price side, the directors report pervasive price-discounting. Almost uniformly they are badgering every supplier and vendor for price reductions, and these negotiations are generally successful, with average price discounts on the order of 10 to 15 percent.

With respect to econometric evidence, my staff has kept our computers running overtime estimating Phillips curves. They find that, so far in this recession, out-of-sample forecasts from a simple backward-looking Phillips curve have been right on track in predicting the decline we have seen in core PCE inflation over the past year. This model notably outperforms a random walk or other empirical specifications that include inflation expectations and/or lagged inflation but exclude slack. It is not that the Phillips curve is perfect—far from it—and, at best, a slack variable can account for only about 30 percent of the fluctuations in core inflation. But as Jim Stock, Mark Watson, and other researchers have shown, it is the best empirical inflation forecasting framework that we have.

With respect to my inflation forecast, the basic empirical Phillips curve model predicts substantial further disinflation. In contrast, the Greenbook projects very modest disinflation in core prices, under the assumption that inflation expectations will play an important role in anchoring inflation around 2 percent. I, too, hope that inflation will not move much lower. But there's a lot we don't know about how inflation expectations affect actual inflation and about how to measure the expectations that are relevant for price setting. For example, our estimated finance models indicate that many of the recent fluctuations in the break-even inflation rate reflect movements in the inflation risk premiums and that inflation expectations have actually drifted down over the past year. We should, therefore, remain attentive to downside inflationary risks.

I understand that at our December meeting we will have an in-depth discussion of inflation modeling and forecasting, and I look forward to that. At our last meeting, President Stern aptly described the use of a Phillips curve to forecast inflation. He said, "It takes a model to beat a model, and I don't think we have another model in the short run." And I agree.

CHAIRMAN BERNANKE. Thank you. I should just say that for the December meeting, the current plan is to have a presentation—by Reserve Banks, I guess—on inflation dynamics. So we'll try to bring back the "continuing education" aspect of this meeting.

We're well into the 6:00 hour. Thank you, everyone. Why don't we adjourn until 9:00 a.m. tomorrow morning. There's a reception and a dinner, but no business—it's an optional dinner for your convenience. So I'll see you at 9:00. Thank you.

[Meeting recessed]

September 23, 2009—Morning Session

CHAIRMAN BERNANKE. Good morning, everybody. I recognize the Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you. I was remiss yesterday in not introducing Angela O'Connor, sitting next to Brian Sack, from the Markets group. So I apologize, Angela.

MS. O'CONNOR. Thank you.

VICE CHAIRMAN DUDLEY. Welcome.

CHAIRMAN BERNANKE. Welcome. Good. We can continue with the economic go-round, and I have President Hoenig to lead off.

MR. HOENIG. Good morning. Thank you. The Tenth District, like the rest of the nation, appears to be climbing its way out of the recession. We've seen some slight improvement in retail sales, our manufacturing index is up above 50, and there's clearly some improvement in our inventory situation, notably in housing, which has stabilized—in fact, we're actually seeing some improvement. Where we continue to struggle is, obviously, with commercial real estate, which is a big issue for us. Our agricultural sector this year will be down, because prices are down, primarily for bumper crops. Also, our labor markets are stable, they're not improving. They may show some uptick, but very little, we suspect, as the economy and the region has settled out. Even our energy sector, which has been in the doldrums—as President Fisher said, because we produce a lot of natural gas—has at least stabilized for now. So we're working our way out, and, I would say, in a manner similar to that for the nation as a whole.

When we consider the nation and the outlook, I think that we are in recovery. There are signs, in our region and elsewhere, of self-correcting mechanisms—the runoff in inventories, the rebuilding, manufacturing picking up. Some of that is self-sustaining, hopefully, and will move us forward.

As we've started this recovery, and as we look forward, there continues to be enormous stimulus that is yet to play out, both fiscal stimulus that is under way and will go through 2010 and monetary stimulus as well. And I think that's very important to keep in mind as we look ahead. As we anticipate inflation and issues like that, I think it's also important to remember that we do need to look many quarters ahead, because everything that's happening today reflects steps we were involved in several quarters ago, or at least in the spring. In that regard, I think we face a challenge looking at the immediate recovery, sustaining that recovery, and then looking far enough ahead that we don't introduce new problems for ourselves. And that's what I do worry about regarding inflation and other asset issues that might come up.

We're going to be in a position of trying, as you say, to bring our monetary policy to a more neutral level in those quarters. It's going to take a long time to do that. And we'll be using instruments we've never used before—that means there's going to be slippage, and that means there are going to be mistakes. Anticipating the next discussion a little bit, as we think about first quarter, when I think there is a good chance the recovery will be sustained, I cannot help but wonder if one of our most important tools—and there is risk with every choice we make—is to do nothing in terms of buying assets that we would then almost immediately have to sterilize.

On the matter of excess capacity, of course, we are just starting the recovery, so there is excess capacity. For example, a while ago, if you took a railroad in my part of the world and you asked the CEO about capacity, he'd have told you that he had cars parked that would just about cross the state of Kansas—and for those of you who don't know Kansas, that's a long way. [Laughter] More recently, though, his parked cars stretch only as far as Great Bend, Kansas—

and for those of you who don’t know Kansas, that’s still a long way, but less so. So the capacity is being worked off, and that’s the process that’s under way. So we have to be thinking about when the capacity will be used up compared with when our monetary policy will be in a more neutral position. Those are the hard choices I think we have, and that’s why I am worried about our timing in terms of purchasing assets and continuing on that path. So thank you very much, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Pianalto.

MS. PIANALTO. Thank you, Mr. Chairman. My business contacts in the Fourth District continue to be wary about developments in the economy. While most businesses reported incremental gains in their output levels earlier this summer, many have already seen a tapering off of those gains. Other contacts reported that orders are fluctuating with no discernible trend. Overall, I would characterize the predominant mood of the business executives I speak with as uncertain and cautious.

One of the reasons there is so much uncertainty is that the improvements that we have seen in the critical industries appear to be tied to short-term stimulus programs. District auto sales got a clear boost from the “cash-for-clunkers” program, and auto production plans have now been increased for both the third and fourth quarters. There is also no question that there have been ripple effects through the supply chain all the way back to orders for steel. This increased production in autos and industries related to autos was critical to the stabilization in the Fourth District output that we reported in the latest Beige Book.

But the limited gains in the industrial sector to date do lead me to think that this recovery is very fragile. Underscoring the fragility is the uncertainty about just how sustainable the demand for car sales will be into and beyond the fourth quarter. For similar reasons, my contacts in the real estate industry are concerned that sales may decline once the first-time homebuyer tax credit expires on December 1. They certainly aren't complaining about the support, which is drawing in new homebuyers, yet they also report that an unusual number of sellers are renting rather than purchasing move-up houses. One real estate executive said that, traditionally, four out of five sales are to move-up buyers, whereas he is only seeing two out of five sales to move-up buyers in the current market. The lack of move-up purchasing has limited the impact of the first-time homebuyer programs, and move-up purchasing is going to be critical once the first-time homebuyer incentives are exhausted. Again, the economy's fragility is partly hidden by incentives, which, in this case, are scheduled to roll off later this year.

Concerns such as these weighed on my outlook for economic growth, particularly in the fourth quarter. I anticipate a gradual and bumpy recovery. My outlook does not have sustained above-trend growth until the second half of 2010, with the unemployment rate topping off at just over 10 percent early next year.

Turning to inflation, two pieces of research done by my staff helped to guide my outlook. The first is a model of inflation expectations that does not rely on TIPS to estimate inflation expectations. Instead, the model combines inflation data, nominal bond rates, survey measures of inflation expectations, and inflation swaps to construct estimates of expected inflation. This model shows that inflation expectations remain stable from two to ten years out. Second, my staff, along with the staff at the Atlanta Fed, has been examining the detailed price data by splitting the consumer price index market basket according to whether prices of goods and services are sticky or flexible. The stickier prices appear to be a particularly informative measure of core inflation, in that they more reliably predict future inflation. Our staff analysis shows that the inflation rate of the goods and services with stickier prices has shifted sharply lower this year. This trend points to suppressed inflation rates for the next few quarters.

These results point to some crosscurrents I see in putting together an inflation projection. In the near term, resource slack is likely to depress core inflation numbers, while over the medium term, monetary and fiscal policies and stable inflation expectations should support an inflation trajectory toward 2 percent. Specifically, I expect core PCE inflation to dip below 1½ percent in 2010, but to increase gradually toward 2 percent in 2011.

Overall, the risks to my inflation outlook remain balanced. Regarding the risks to my outlook for economic growth, though, I think I appear to be in the small minority, because I still see the risks to growth to the downside. I am concerned that the gains that we have seen recently in the real economy are limited and are potentially just temporary reflections of the policy actions undertaken earlier this year. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. First Vice President Lyon.

MR. LYON. Thank you, Mr. Chairman. Let me first address the District outlook. Consistent with the incoming national data, the Ninth District economy is showing some signs of improvement. For instance, survey data indicate that manufacturing activity in the Dakotas has increased and has remained steady in Minnesota. We are seeing a modest, but nevertheless perceptible, increase in anecdotal reports of businesses' plans to expand production. Activity in the energy and mining sectors of the District economy is also showing a slight increase. Exploration activity is up somewhat, and there are scattered reports of plans to restart idle production and expand facilities. For example, a large iron ore mine in northern Minnesota has resumed production. The health-care sector appears to have weathered the recession relatively well. Residential construction activity appears to have stabilized, albeit at low levels. While the results vary across the District, we are now seeing some improvement in the level of home sales in various metropolitan areas. Commercial real estate, in contrast, continues to be weak. Commercial real estate markets have been depressed by a combination of lower economic activity, rising vacancy rates, tighter credit conditions, and rapidly falling property values. On the flip side, lower rental rates should help the profitability of businesses that need space.

Despite the recent improvement in the national data, District consumer spending has been soft, with the exception of auto sales, which have been buoyed by the "cash-for-clunkers" program. Anecdotal reports on same-store retail sales indicate declines of 4 to 8 percent compared with a year ago. Across the District, our contacts report that while the number of tourists has increased, the level of tourism-related spending remains somewhat soft relative to prior norms. In agriculture, crop development is about two weeks behind normal due to late planting and a cool summer. An early frost could significantly reduce production, which would negatively affect food processors, ethanol plants, and ranchers. Unemployment levels across the District, from Minnesota to Montana, remain low compared with the national average, with the most recent readings from 4.3 percent in North Dakota to 8 percent in Minnesota.

Turning to the national economy, most of the incoming data remain consistent with our forecast of a near-term increase in output and subdued inflation. A reduction in the rate of business inventory liquidation, firming of consumer spending, and some growth in federal spending should support the resumption of economic growth during the remainder of the year. Developments since the last meeting have served to reinforce this view. The August uptick in retail sales, data on orders and shipments of capital goods, business sentiment, and the rise in sales and starts of single-family homes, are all consistent with improvement in the level of economic activity. The gradual reduction of the adverse impacts of declines in wealth should also support a rise in consumer spending.

As President Stern noted in August, our forecast in recent months has been for a bit more rapid growth than in the prior Greenbook. Given the markup in the Greenbook forecast since the last meeting, our forecast and that of the Greenbook are now more closely aligned. While the outlook has improved since the last meeting, in my view the principal risks to our forecast are to the downside. Going forward, the expiration of some of the government programs that have been providing support to the economy creates uncertainty in the outlook. Moreover, beyond the third quarter, the ongoing weakness in labor markets, particularly the very low rate of gross hiring by private firms, raises questions about where household earnings growth will come from and where workers, who are no longer building houses, strip malls, and SUVs, will be reemployed. Prolonged uncertainty about job prospects and tight consumer credit markets could lead consumers to reverse course and cut spending this year or next, and this, in turn, could feed another round of production and inventory cuts. While I believe that these risks can be avoided, I will feel significantly more confident in this view with a few more months of positive developments.

Consistent with the Greenbook forecast, I expect improvements in employment will be gradual, and I believe that this is the inevitable byproduct of a necessary process of resource reallocation. As such, I believe that, at least to some extent, we must be prepared simply to allow this process to unfold, recognizing that it may not be particularly responsive to incremental additional stimulus. Despite the improved outlook for economic activity, I expect inflation expectations to remain well anchored and agree with the Greenbook forecast that inflation will remain within acceptable bounds. Thank you.

CHAIRMAN BERNANKE. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Mr. Chairman. The economy is clearly doing better. All indications are that we will have a pretty strong bounce in activity during the second half of the year—3+ percent annualized real GDP growth seems likely, and the risks over the near term are probably to the upside, I think, of the Greenbook forecast, because inventory cycles can be very powerful.

That said, I still think it is very premature to declare victory for several reasons. First, a good portion of the growth will come from the swing in the pace of inventory accumulation rather than strength in final demand. Second, the banking system is still impaired. Bank credit outstanding has been declining. Small businesses and commercial real estate sectors are particularly starved for credit, and that is likely to continue for some time. Third, payrolls are still falling, and the unemployment rate is still rising. Fourth, we don't know how households will respond to the sharp drop in net worth at a time that household debt burdens remain high. I can imagine a combination of higher household saving and increased labor market participation as baby boomers postpone retirement. The first would damp demand; the second would raise the amount of slack in the labor market. Fifth, we are already in the process of removing accommodation—the purchase programs are going to move to the slower pace, the liquidity programs are being gradually unwound, and other government support to the financial sector, such as the money market fund guarantees and the TLGP, are being withdrawn.

At a time when the unemployment rate is very high and is still rising, and when there is ample slack in the economy, I think we want to be cautious in moving too quickly to take back additional accommodation. What we want is a robust recovery that pushes the unemployment rate down quickly—that's what we are going for. That doesn't seem to be in the cards. Nothing that I've heard around the table suggests that that's the expectation of the members of the Committee.

Until we actually see that robust recovery, I think we're getting well ahead of ourselves in talking about removing additional accommodation. Although some are worried about the longer-term inflation outlook, over the next year or two, to me, the risks seem very much on the downside: Core services inflation has come down a lot; core goods inflation seems likely to follow, given the large amount of excess capacity available in the U.S. and abroad; we're already below a rate of core inflation consistent with our longer-term forecast for the core PCE deflator; and core inflation typically falls during the early stages of recovery. In fact, if the recovery were to turn out to be more robust than expected, I would expect that would lead to a further surprise on the productivity front and potentially even more downward pressure on inflation over the next year or two. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Kohn.

MR. KOHN. Thank you, Mr. Chairman. As many have remarked, there has been more good news over the intermeeting period, and I have been especially encouraged by the nascent recovery in private final demand—this is more than just an inventory cycle. Importantly, better economic data are feeding and feeding off of continued improvement in financial markets, at least in many sectors of the those markets, so we've got a bit of a virtuous cycle in play, and that's a nice change from where we were a few months ago.

The repeated pleasant surprises on the economy and upward revisions to the forecast led me to question whether I had been missing some part of the recovery process and should mark the forecast up further than the staff, even though the staff itself is now a little bit beyond private forecasters. I looked at a couple of candidates. One was the issue of pent-up demand for houses, consumer durables, and business capital, given the very, very low levels of spending on these categories, and, in the case of houses, declines in prices, which ought to boost demand. As the V-shaped recovery scenario in the Greenbook notes, investment is low, even relative to replacement demand, much less relative to some tendency for the capital stock to grow over time. So pent-up demand is quite a possibility and would be characteristic of other recoveries, I think.

Nonetheless, there are reasons to doubt a strong rebound in the current circumstances. First, the recession started with a very marked oversupply of houses and, probably, of consumer durables given the overly generous supply of credit to households. It’s true that the housing vacancy rate has come down a little bit—I think the last data we have are for the second quarter—but it’s still very high. For businesses, record low capacity utilization, high vacancy rates in many commercial structures, and, as most of you have noted in your comments, a very cautious outlook for sales, will hold back investment in that sector. So I think stronger household and business investment spending is an upside risk, but it’s not part of my central tendency.

The second candidate for a process I might be missing was more traction than anticipated for monetary stimulus now that the financial panic has abated. That is, low levels of nominal and real interest rates along with massive amounts of reserves could be inducing a diversification into riskier assets, including foreign assets, which would lower the foreign exchange value of the dollar, and thereby raise bond and equity prices. This is exactly what we intended by our easy monetary policy, but it could be happening faster than we expected. And I think elements in this story are certainly evident over the intermeeting period. Like Presidents Plosser and Lacker, I was struck by the combination of higher equity prices and lower spreads with lower Treasury yields at the same time. I think market participants gained confidence in the sustainability of the recovery, but they also gained confidence in the persistence of low inflation, given the incoming price data and the still-weak labor markets, which will keep demand from rising very rapidly. Greater confidence in the outlook, reduced uncertainty in risk premiums, and low inflation risks enabled market participants to push off the expected date of policy tightening. Notably, this phenomenon was widespread internationally and not particular to the United States. So I see this as more of a current and expected interest rate channel responding to macroeconomic data rather than reflecting some putting to use of the large volume of reserves we've put into the system. I expect continued improvement of this sort, in part reflecting markets that will continue to postpone expected tightening as inflation stays low, but I expect this improvement to be gradual.

An important limiting factor in this is the banking system. The gains have largely been in securities markets. Bank credit to households and small businesses remains very tight, and, if anything, tightened further over the third quarter, as we can see in the spreads on business loan rates over base rates in the Survey of Terms of Business Lending, and the problems perceived by small businesses in the NFIB survey. Credit card spreads and terms have been tightening. Banks are looking at rising losses on consumer and CRE credit; those banks below the top few don't have the offset of higher profits from capital markets' business. The process of rebuilding bank capital and willingness to take risks is going to be gradual and prolonged, and, with securitization markets only partly recovered, our economy is likely to be more bank-dependent.

President Plosser asked, "What should we be looking at to gauge whether reserves are being put to use?" I'd be looking at both the price, or interest rate, and quantity of bank lending as important things. We've already noted, I think, that prices stayed high, that is, the rates have stayed high. So, there is no evidence there. And the quantities also are very, very weak—if anything, the pace of the decline in bank credit has picked up. I think if it were just a shift in demand, I’d expect interest rates to come down while quantities were falling. So I do think we’re looking at very, very tight, if not tightening, supplies. To the extent that quantitative easing works through the money supply in the hands of the public, that, too, has been weak. So I think greater traction for policy is an upside risk, but it’s also not in my central tendency. My most likely outlook for activity is something like the staff forecast—strengthening growth as bank credit and lending capacity rebuild and as markets and households rebuild balance sheets, a very gradual rise in resource utilization, with the unemployment rate remaining high for some time.

I think there are downside as well as upside risks to this forecast. We’ve all cited household saving as one possibility—that is, households may decide to rebuild net worth faster in light of increased uncertainty about jobs, their financial position, and their reduced access to credit. There’s also a downside risk, as a couple of people have noted this morning, if it turns out that the improvement to the economy and financial markets has been more dependent on government support, both fiscal and financial, than we had been thinking. As fiscal stimulus wears off over the next year and financial help and backstops are reduced by the Federal Reserve and other government agencies, I think there’s a risk—not a big one, but a risk—that growth could slow down or at least fail to gather momentum.

So I think that something like the staff forecast, or even a little stronger, is likely to be accompanied by stable to falling inflation; core inflation continues to edge lower—by less than we expected some months ago, but it’s still edging lower. Labor compensation is decelerating sharply to unusually low levels by many measures. Some of this is adjustments in bonuses, and the bonuses are likely to rise again. But I think that, looking through all of these measures, the underlying trend in compensation is clearly downward, and I take this as indicating that there is considerable excess supply in the labor market. Combined with rapid productivity growth, unit labor costs are falling very, very fast. There are no labor cost pressures on businesses, and markups over unit labor costs have risen sharply.

I'd like to associate myself with the comments of Presidents Evans and Yellen yesterday on the question of slack and inflation. Measures of slack cannot be estimated with a great deal of confidence, nor can the relationship between slack and inflation. But the unemployment rate has risen so high so fast, and capacity utilization has dropped so low so fast, that there must be considerable labor and capital resources looking to, and able to, be put back to work. In this kind of environment, competitive pressures on employees and employers will remain intense. I don't expect any sign of pricing power to emerge any time soon. I agree that rising inflation expectations could overcome the effects of slack, but, to date, measures from surveys of households and economists from financial markets seem quite stable once you get beyond short-term energy- and liquidity-induced fluctuations.

President Plosser raised the question of the level of the household survey. Household surveys historically tend to run high, I think, higher than economists and higher than reality. I know this has been a source of continuing frustration for the ECB, where they can't ever cite the household surveys as validating their inflation target, so they always cite the consensus forecasts of economists.

In sum, I look for somewhat stronger growth, but a still-slow increase in resource utilization, and damped and probably declining inflation. We'll get to the policy implications in the next round. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Warsh.

MR. WARSH. Thank you, Mr. Chairman. For the first time in a long while, I have more conviction about what is going to happen in the next two or three quarters than I do over the next two or three years. For the past couple of years, and especially last year, we wondered what was at our doorstep. Now we can look to the medium-term forecast and say, "Well, this stuff will all work out." I would say in some ways this is as it should be. Near-term prospects and projections should be clearer to policymakers, and I think for the first time, at least for me, they are.

In terms of the trajectory of the economy, though, I would say I also feel better about the next few quarters than I do the next few years. The reason for that improvement in conviction and in its strength on the real side of the economy has a lot to do with the asset price improvements and has considerably to do in addition, as Dave Stockton said yesterday, with inventories, as well as with the mix of fiscal and monetary measures, which are certainly helping the arithmetic of near-term GDP. I think the Greenbook is right in suggesting—and not being as dismissive as many of us, myself included, would have been six or nine months ago—the chance of a positive feedback loop that takes us out of where we are with greater strength and conviction. Economies have been underestimated in the post–war era, and maybe we're underestimating the resiliency of this one.

How durable is this improvement beyond the near term? We've all heard stories. I heard many of them from you yesterday about Fortune 500 CEOs. If I go back to the 2001–2002 recession and recovery, these CEOs were lousy indicators about the turns in the economy. So I guess I'm not that troubled that they continue to have their heads in their hands. I think the difference this time, and the reason why this time they could be right, is that you've got to look long and hard to find real anecdotes of small businesses that are seeing opportunities. Given what Don talked about in terms of the bank lending, and the ability of small businesses to access credit, to access capital, and to get their own animal spirits back, it may be that businesses large and small are still suffering from a bit of pessimism, while we need them to be much more on their front foot.

Another question about the durability of the improvement and whether it will find medium-term forecasts as good as the Greenbook suggests is the state of private final demand in 2010. It's hard to know whether the handoffs from the public sector stimulus to the private sector improvements will happen as smoothly and in as linear a fashion as the Greenbook suggests. Also, it's hard to know whether recent improvements in industrial production are sustainable.

And on the consumer income issue that many people have talked about, the question is: Will incomes be sufficient to fund consumption amid this specter of large unemployment? Personally, I'm more worried about low income, excluding transfer payments, than I am low consumption per se. And, if the unemployment levels stay as high as they are, will there be enough impetus in incomes, particularly if our asset prices smooth out over time, to fund the kind of consumption levels that are consistent with a reasonably positive Greenbook-type forecast?

My medium-term forecast, as a result of all of that, is improved somewhat, but it's not marked up as much as the Greenbook. I think the risks are predominantly, but not exclusively, to the downside. The risk is that potential economic growth and employment may have faltered, making this recession in some sense more costly than the recent loss of jobs and output alone. I think the continuing questions of the fiscal sustainability and markets' acceptance of continuing Treasury issuance are real risk factors to the medium-term forecasts.

Let me turn, then, to financial markets before talking about inflation. On the financial market front, I'd describe my own views, at least in terms of near-term financial market prices and market functioning, as tactically long but strategically short. What do I mean by that? There's still a ton of momentum in these markets. As I said when we met last, about six weeks ago, though I was a skeptic about the degree of improvements in the spring and the summer, this thing has so much going for it in terms of momentum, in terms of money coming off the sidelines, in terms of institutional and retail investors who don't want to miss the next leg, that it strikes me as imprudent, at least in the very near term, to try to stand in front of this wave and not get blown over. Zero rates seem to be having some hand in driving this reflation in asset prices.

But, why am I strategically short, or at least strategically nervous? I worry about the sustainability of these improvements in markets, given the questions we've all talked about on the real side of the economy. Many are saying, "Well, this time I will get out just in time," and that reminds us of what we heard not too long ago. Still, on net, consumer net worth has rallied with asset prices, and it is probably up another couple trillion dollars when we see the ultimate data from the third quarter, with the corresponding wealth and confidence effects.

What are market price signals telling us? Market prices might be as unclear as they've been in a very long time, even though on the real economy side we feel better. It's tougher to judge what these markets are telling us because of a few changes: one, seeming changes in investor preferences and asset allocation; two, changes in the financial architecture, which I have talked about before; and, three, our extraordinary participation as the government in these markets. How much of the difficulty in handling these market signals is driven by our participation, explicitly and implicitly, is hard to tell. I think the Chairman mentioned yesterday this odd constellation of market signals since we last met as a Committee—stock prices are up, bond yields are down, Treasury yields are down, the foreign exchange value of the dollar is down, commodity prices are up. That is hard for me to reconcile. I could tell a long and twisted story, but it's not a terribly convincing one, and it would certainly be nothing more than a rationalization.

But let me start on the simplest pieces of it, and those are stocks and bonds. Why are they both performing as smartly? I would say markets might be at a transitional point—some kind of barbell—and thinking about asset allocation. They've seen equity markets move against them, they're looking for alpha, they're looking for returns, and so they're going out and buying equities. But just in case they're wrong, they want to make sure that they hold on to enough cash—which is near and dear to their hearts—so that if the world were to somehow end again, they would have that. Intermediate risks and intermediate credits seem to me to be looked upon somewhat more negatively by marginal investors.

My last point on financial markets is on Treasury and Treasury market signals and what they're telling us. They do seem to be incredibly supportive of massive issuance. It reminds me in some ways of risk measures, where risk is highest when measures of risk are actually lowest. The Treasury markets seem to be telling us that the supply will have infinite demand, but that should make us nervous. It does strike me that the Treasury market won't get slowly but surely uncomfortable with these debt-to-GDP ratios, but rather that it might come in a hurry. If it does, I think the consequences, both for the real economy and the challenges we face in monetary policy, will become quite remarkable.

Now, when might that moment come? I don't know. But I would say that the debt-limit issue that the Congress and the Administration will be debating, most likely over the course of

November, might well be that catalyst. This debt-limit discussion has had a partisan nature to it going back about 20 to 25 years, but I wonder whether or not there is just enough in the air about fiscal sustainability that we should pay particular attention to what the Treasury markets are telling us in the forthcoming period.

Finally, on inflation, I have to agree with the emerging consensus among many folks in this room about the pressure on wages, given various measures of slack. Going against that theme, though, it does strike me that if the dollar continues to weaken against foreign currencies, and, for whatever reason, whether because of global final demand or something else, commodities continue to strengthen, these crosscurrents will be hitting each other. How they net out for measures of inflation and inflation expectations strikes me as a paramount challenge for policymaking. Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Duke.

MS. DUKE. Thank you, Mr. Chairman. Before I start, I'd like to go back to the question I missed yesterday, which was on the accounting. I did find out that we actually take exception to GAAP with the evaluation of the SOMA portfolio on the rationale that our purchases and sales are driven by monetary policy considerations rather than valuation. As we go forward with the MBS purchases, this rationale could get pretty stressed, especially if we choose the securities that we sell for their valuation rather than for some monetary policy reason. I point that out just so that we're aware that the accounting issues we face may ultimately have some political costs, at least when we start to exit, so we can't entirely ignore the losses in those securities.

Turning to observations from the banking sector, most of the banks report little change in their current or expected condition since the last meeting. In terms of new lending, there's very low demand across the board, but pricing is still significantly better. I asked "Why is it with very low demand that your pricing is still so strong?" They said they're only lending to the highest-quality credits with relationships, with profitability, and borrowers are actually happy to have the lending relationships intact. There's very little shopping and very little competition—banks aren't chasing someone else's customers and customers aren't looking for a new bank. Line usage is at historic lows, even by the borrowers who already have approved credit at very favorable pricing, and borrowers whose banks have closed or been acquired are actually orphaned and unable to get the best terms.

I've been trying to understand the difference between the credit availability in this cycle and the one that followed the last banking crisis. The staff used the flow of funds data to try to estimate the difference between forecast and actual levels of credit and found that at this point in the cycle about 46 percent of the difference can be explained by credit factors rather than economic factors, compared to 62 percent in the 1990–91 cycle.

In terms of loan quality, interestingly, one member of the FAC noted that, when they met here a week or two ago, they had dinner with the Chairman and not one of the bankers had an outlook as positive as the Chairman expressed. They were quite amazed at the Chairman's cheerfulness. [Laughter] Most see the next six quarters as stable, at best. In terms of consumer credit charge-offs, they think they're at or close to the worst, at least in dollar terms, if not in percentages, on credit card and auto loans. But they don't see any dramatic improvement from there, rather just a gradual pull back from current levels that are at historic highs.

The same holds true for early-stage delinquencies on residential mortgages, which are now displaying their historic correlations with new claims rather than with overall unemployment, but the picture is a lot murkier for later-stage delinquencies. Frankly, the systems were never designed to track modifications, foreclosure moratoriums, partial payments—all of the things that are going on in the already delinquent loans. So nobody seems quite sure, but most expect that the picture will be clearer by mid- to late 2010 and no sooner, as the bankers and servicers improve their processes for modifications and short sales, while foreclosure and real estate liquidation backlogs clear.

Commercial real estate is still the big wild card, and at this point the losses on residential construction and land development loans are beginning at least to track the carrying values, and the book value of the remaining assets is very low. There was, interestingly, some reported interest from the large national builders in finished lots in selected geographies, particularly Southern California and Texas and even a little bit in Las Vegas, and stated interest in land for development in 2011, but all at very low prices. The weakest areas for construction loans are Florida, Arizona, and Nevada, with Florida reported as having the longest probable time for recovery. Income-producing properties are showing signs of stress, with rising vacancies and rent renegotiations, but most still view this stress as primarily driven by economic fundamentals rather than widespread overbuilding. Hospitality is faring the worst, followed by retail and then industrial. Office properties are holding up remarkably well, as are multifamily residences.

Losses on owner-occupied properties are tracking at fractions of the loss levels that were assumed in the stress test, and every single banker asserts that credit decisions for new and troubled credit are being driven over concern on regulatory classifications, regulatory classifications to capital, and examiner pressure. Bankers are reluctant to take any action that's going to require them to raise additional capital, which is available to them in varying degrees, but uniformly expensive.

In terms of forecasting, I have difficulty determining the degree to which the level of credit restraint that's baked into the Greenbook forecast matches the current banker mindset. But

I have a hard time constructing a scenario where consumer spending returns with any vigor, given the weak appetite for risk and the high level of credit impairment.

Bankers are talking about their desire to lend only to prime borrowers, but the population of subprime borrowers continues to grow. Households with credit scores considered to be subprime has increased from 28 percent of the population at the peak in 2006 to nearly 36 percent. In terms of absolute numbers, the number of subprime borrowers grew from 63 million to 80 million at the end of 2008, and this is before factoring in changes in income, wealth, or collateral values, which don’t necessarily track where the population of subprime is found. Banks report total unused commitments are down $1½ trillion from the peak, with $1 trillion of that in credit card availability. New credit card solicitations are down from a peak of 800,000 per month to 150,000 per month, with subprime down 85 percent.

The same credit impairment factors are also likely to influence the housing rebound. Given the expectation that high losses in the construction portfolio are going to continue into next year, as will the intense regulatory scrutiny, banks’ willingness to lend for residential construction is especially low. Most of the sales in new construction are reportedly in low-end products, and banks forecast that they won’t work through their backlog until mid-2010.

We’ve talked about improvement in financial markets, but nothing has been done to reconstruct the housing finance system or residential mortgage securitization outside of extraordinary government support. As yet, there is not even the beginning of a consensus around the requirements for new private securitizations, while accounting changes seem to be creating new barriers. The first-time homebuyer credit is set to expire, and support for renewing it so far appears tepid. The Administration has announced that it will not have a proposal about the future of the GSEs until early next year, and it is apparently approaching this as a full discussion of the proper role of government in housing finance. The FHA is reportedly coming close to its minimum reserve level. Its loan volume has spiked as private subprime retreated. So it wouldn't be unreasonable to expect higher losses with that increase in volume. Finally, our purchase of agency MBS is likely going to come to an end at least by the end of the first quarter.

With all of these headwinds coming into play, I can envision a good case for actually extending our purchases and even expanding the size to get into the second quarter, as all of these supports are removed from the housing market. At the same time, I'm concerned that neither we nor the banks know yet how big an impact the addition of another $600 to $800 billion in reserves is likely to have. The big run-up in reserves actually occurred last fall when banks were scrambling for liquidity, and they really viewed it as their own decision to take on additional liquidity, not our decision to put the liquidity there. Since then, the aggregate reserves have fluctuated in a fairly narrow band as new asset purchases were offset with reduced borrowing. So discussions with smaller banks paint a picture similar to what was found by staff in consultation with the larger institutions—they haven't focused on the reserves, but they report that they have more deposits than they can profitably invest and, therefore, are reducing their managed liabilities. Rates paid on deposits are being reduced, and deposit competition appears benign. I would also point out that, at 25 basis points, reserves are the most attractive short-term risk-free asset for banks to hold.

With the Treasury's planned SFP drawdown, settlements of prior purchases as well as new purchases, banks are going to see substantial and unexpected increases in their reserve balances very soon, and most bankers are not focused on the aggregate reserves in the system. To bankers, this is just going to look like excess liquidity, and the only way to deal with excess liquidity is either to buy riskier assets or reduce liabilities. Given the credit situation, I expect the bankers to shed liabilities, likely leading to shrinkage similar to that described by President Rosengren in the Japanese banks. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. Back in my accustomed spot at the end of the queue, I thought the one criterion for deciding what to say might be to offer only my insights that will add value to what has already been said. Mr. Chairman, that concludes my statement. [Laughter]

Understanding, however, that another purpose of the go-round might be to explain each member's views to the Committee as a whole, let me note a few points that most inform my outlook. First, the employment situation continues to be dismal. Scan the monthly BLS release, and the only demographic group whose unemployment rate looks less than disheartening is that for college graduates at 4.7 percent. A look behind even that figure gives little reason for comfort, insofar as it stood at 2.7 percent just a year ago. Most of the rest of the numbers are downright discouraging. Of greater relevance, perhaps, for present purposes is the near unanimity of forecasters that improvement in the labor market will be painfully slow. The most optimistic alternative Greenbook scenario has the unemployment rate barely breaking 7 percent at the end of 2011. A review of the latest Blue Chip economic indicators reveals that all but one of the 50 forecasters believe the average unemployment rate in 2010 will come in above 9 percent. To say that we are nowhere near achieving the maximum employment component of our dual mandate would be a major understatement. The most that can fairly be said is that the bottoming of negative employment trends may at some point soon be coming into view.

Second, in looking back at my statement at the last meeting, I would have to amend my view that GDP growth in the second half of 2009 will perhaps be quite positive to an expectation that it will almost surely be quite positive with a good chance of being modestly above trend. But I see little to change my view of six weeks ago that 2010 is most likely to witness what I termed the "grind it out" scenario, with economic growth ultimately above trend but nowhere near the slope of recovery one might expect out of a deep recession.

Indeed, there remains good reason to believe that one or more factors will keep the economic road sufficiently rocky that we will have difficulty sustaining a good head of steam. Continuing high unemployment will impose a constraint on PCE growth. A higher personal saving rate than the 4 percent, expected by the Greenbook to remain unchanged for the next two years, would similarly drag down PCE growth. The fading of the stimulus package by the middle of 2010 creates further uncertainty as to just how robust consumer demand will be and, thus, how much production will grow once inventory drawdowns are completed. The prospect of ongoing high levels of home foreclosures suggests that downward pressure on the housing market may not fully abate for some time. Finally, the ongoing steep decline in bank lending, like the continuing dysfunction in some other parts of credit markets, appears to reflect something more than just the tightened lending standards associated with recessions.

In the interest of completeness, I should note that prospects for a stronger global recovery have brightened considerably, one of the factors I suggested that might support my rejuvenation scenario here at home. Asia, in particular, seems to have generated enough momentum to outlast the withdrawal of extraordinary stimulus. Still, I would note that in China and most other East Asian countries, we haven't yet seen the emergence of a real promise of self-sustaining final consumer demand.

If some of the preceding sounds familiar, it should. I lifted a good bit of it from my comments at the August FOMC. The intervening month and a half has reinforced the positive signs for the remainder of this year and, I would say, slightly rebalanced in a more optimistic direction the respective probabilities of relapse, "grind it out," or rejuvenation. But all three remain plausible outcomes. In sum, I find myself singing much the same tune as last time, but even as I reprise my coda, I want to alter it a bit, adding some lyrics suggested by President Bullard's remarks yesterday afternoon. And here I'm going to take advantage of my holding down the sixteenth spot in the batting order to slide a little bit into relevant policy considerations. I stand by my August recommendation of patience during this period where the probabilities of each of my three scenarios remain significant. The additional thought, picking up on President Bullard's comment, is that we should be prepared to undertake an appropriate policy response no matter which of the three emerges as reality.

As the rest of you will have quickly concluded, my own concern is specifically that we not regard the possible conclusion of the current large-scale asset-purchase programs as in itself raising the hurdle rate on future policy initiatives in the event that relapse seems to be occurring. It's important in my view that we be clear on this point among ourselves and that we communicate it to markets and the public. Thank you, Mr. Chairman

CHAIRMAN BERNANKE. Thank you very much, and thanks to everyone for useful discussion. I'm going to attempt here to summarize what I've heard and then make a few additional comments.

In summary, the outlook improved during the intervening period, particularly with respect to economic growth over the remainder of the year, and most participants believe that recovery had begun. Although anecdotal information suggests that businesses and households remain quite cautious, a number of factors should support growth over the next few quarters, including reduced inventory accumulation, higher auto sales and production, modest increases in housing activity and prices, some stabilization in household spending, better financial conditions, and accommodative monetary and fiscal policies.

The outlook for the medium term also seems better than at the last meeting, but there remains considerable uncertainty about whether final demand growth will be sustained once government policy supports, including special measures such as “cash-for-clunkers” and the first-time homebuyer’s credit, begin to wane. The modal view was that the recovery in 2010 could be relatively slow—maybe a checkmark [laughter]—perhaps around the long-run potential growth rate, a rate that would be too slow to reduce the unemployment rate significantly next year. Some suggested that downside risks to growth remained as well. Inflation remains relatively low, but there was some disagreement about the factors that most influence inflation in the medium term and about the risks associated with our current mix of policies.

Retail sales and consumer spending have picked up a bit, in part reflecting special factors, such as the “cash-for-clunkers” program. Some consumer fundamentals are improved. Notably, household wealth is rising again, and labor income may be stabilizing. Sentiment, though still low, has improved, and there is possibly some pent-up demand. However, especially weak labor markets, tight credit, and the slowing of the benefits of the stimulus package seem likely to restrain consumption growth. Saving rates have been relatively stable, but the evolution of the saving rate remains an important uncertainty in the near term.

In the housing sector, sales and starts have looked somewhat better, and house prices have actually risen a bit. Higher house prices not only increase household wealth, but they also improve the quality of mortgage-related assets and, by reducing the effective cost of capital, encourage home purchase. However, foreclosures are likely to continue to put pressure on prices by raising supply. Other risks to housing are the ending of the temporary tax credit for first-time homebuyers and the end of the Fed's MBS purchase program.

Activity in the nonresidential sector continues to decline sharply in most Districts, reflecting both worsening fundamentals and severe credit constraints. In the business sector, managers are relieved that the worst scenarios have not come to pass, but, as already noted, many remain wary and uncertain about the recovery, and there is some disconnect between their perceptions and the relative strengths seen in the aggregate data.

Business caution, together with low utilization rates and substantial excess capacity, suggest that many firms may be slow to add workers and make new capital investments. Cost-cutting has contributed to productivity gains. The sustainability of those gains is unclear but is potentially an important issue, for example, in determining whether the recovery will be jobless and how slack will evolve.

Manufacturing surveys show some improvement, probably reflecting in part rising volumes of global trade and activity. Indexes show a moderate increase in manufacturers' expectations of prices paid and received. Reports on retailing and services remain somewhat mixed. Health care has done well, transportation less so. Agriculture and natural gas production have been affected by lower prices.

The labor market remains very weak, but may be close to the bottom. Layoffs have slowed somewhat. They're still high, and UI claims are falling only gradually. Gross hiring is weak. Wage growth is moderate, presumably reflecting the weakness of the market. Unemployment is expected to decline only slowly, given the expectation that economic growth will not be significantly above potential next year, and given the recent experience of jobless recoveries.

Improvements in financial markets over the intermeeting period were not dramatic, but the substantial gains in the past six months were largely sustained. Risk-taking and momentum have returned to the markets. The decline in longer-term Treasury yields is somewhat puzzling, but at least for now it is supportive of recovery. However, credit risks in the banking system remain substantial, particularly in residential and commercial mortgages. Bank credit remains tight. Bank loans to smaller businesses, households, and commercial real estate, in particular, have fallen dramatically. Securitization markets still are limited in their activity. Banks' terms continue to tighten, perhaps in part due to regulatory pressures.

Inflation has been relatively stable, with a modest downward trend in the core, and the risks around inflation seem more balanced. Wages and unit labor costs are decelerating, but, on the other hand, the dollar is weakening and commodity prices are up. Participants differed on the fundamental determinants of inflation and consequently on their forecasts, and emphasis on inflation expectations as a driver of inflation, together with the Greenbook assumption that policy will stay easy much longer than markets expect, led some to worry about higher inflation in the medium term. Alternatively, even if slack is an unreliable determinant of inflation in normal times, the very high level of slack that probably exists today could create disinflationary pressures. Very possibly, the stability of inflation expectations as measured in financial markets or in surveys may be disguising a great deal of uncertainty about how policy and inflation will ultimately evolve.

Given the long lags of policy and uncertainties about the effects of unconventional policies, continued clarity about and attention to the Fed's policies and exit strategy are important for retaining confidence.

Any comments? (No response.) Okay. With that let me just add a few thoughts. I come after Governor Tarullo, so it's even more difficult for me.

I think we're all glad that the general view seems to be that the near-term outlook will be better; the data since the last meeting support that view. Of course, the question that everyone has alluded to is whether this near-term pickup will be sustainable going into 2010. I think that this is actually a very complicated question, and there are good arguments on both sides. So at the risk of being a little bit pedantic, I'm going to do "point and counterpoint" and talk a bit about some of what I see as the main forces on the two sides.

If you look at the case for sustainability, there are a lot of factors which suggest that final demand will be sustained next year. I think the housing market developments are particularly important in this regard, and the staff has noted the improvements in house-price outlooks. As President Yellen noted, this is not just a matter of wealth—it potentially affects asset quality. In addition, because expected price changes are part of the cost of capital—or, put another way, people don't want to buy houses when the prices are falling—some sense that prices are stabilizing may be very helpful in terms of residential construction. I think it is literally the case that since I've been Chairman, there has not been a single quarter in which residential construction has added to the GDP. [Laughter] I won't go down as the "housing Chairman," but the third quarter, apparently, may be different.

The labor market is very weak, but overall, as job losses have moderated and as hours have improved slightly and wages have improved slightly, labor income is beginning to stabilize, which is an important precondition for multiplier–accelerator developments next year.

Financial markets are, of course, very positive, and I would note that not only are they a cause of improved conditions in terms of credit availability and in terms of the positive financial feedback loop, but they are also reflective of expectations. In particular, developments in the stock market and the shape of the yield curve are suggestive that confidence about recovery is returning.

On the consumer side, I mentioned last time that I felt comfortable with the Greenbook's assumption that saving rates will be stable going forward, in which case we should begin to see growth in consumption that will support a more sustained recovery. And supporting that is the fact that wealth is beginning to turn around and that the drag from the losses of wealth over the last couple of years will begin to fade over time.

The global recovery is another positive, although the effects are different and work through different channels. But, certainly, I think one of the reasons that manufacturing looks to be leading this recovery must be at least in part because of the exposure of manufacturing to trade.

Finally, on the sustainability side, as Ted Truman and others have been reminding us, the norm for a deep recession is a fairly strong recovery, and there certainly are factors like pent-up demand and inventory adjustments that tend to bring economies back faster than sometimes is anticipated.

On the other hand [laughter], there are some things that go against some of these basically optimistic forces. A number of people have talked about the temporary nature of many of the government programs that are supporting economic growth now—the housing market is a clear case of that. People have mentioned the first-time homebuyer's tax credit, which is now expiring. Presumably the Fed at some point will not be able to maintain the downward pressure on mortgage rates. And there are other things going on as well, including developments in the GSEs, losses at the FHA that may force them to tighten their terms, and probably an increased pace of foreclosures as some of the moratoria and other delays end. So the housing market is not out of the woods by any means, and the Greenbook does take into account a possible relapse in house prices.

The labor market recovery looks much more like a jobless or very slow recovery than the alternative. For example, the UI claims, although falling, are doing so quite slowly, and we are all aware of the fact that the duration of unemployment is quite high, which is going to affect labor force attachment and skills and so on.

The productivity issue really cuts both ways, as we discussed yesterday. At least in the 2001 recovery, there was a close relationship between productivity at the micro level and phenomena associated with a jobless recovery. I would point out that the Greenbook is not really forecasting a jobless recovery. They anticipate, as I count here, 2.2 million payroll jobs in 2010 and 3.8 million in 2011 being added, which of course is possible, but it could be weaker than that if productivity and other forces are drags.

The improvements in financial markets are very encouraging, but the banking system, I think, remains the most important exception, with credit being quite tight and potential losses being very, very important in that sector. I was interested to hear Governor Duke's comments about the banks' views vis-à-vis my own views. In general they are being very, very cautious, in any case, about lending.

Consumer spending has not yet demonstrated that it will be sustainable. "Cash-for-clunkers" and other measures, like the tax credits and transfers of the fiscal program, are, of course, temporary, and more broadly, the fiscal stimulus will begin to decline next year, as will the inventory correction.

And finally, although there is a presumption that a deep recession will be followed by a strong recovery, we have talked in this forum for a number of months about the many headwinds that we face, including leverage issues, credit issues, and various imbalances, for example, fiscal and trade imbalances, that need to be corrected.

So I’ve gone through all of these things not only to show you what an open-minded person I am [laughter], but also to say that I think our views need to be fairly nuanced at this point. I think the general outlook has improved, and I think there’s a reasonable chance for the recovery to be sustained in 2010, but there are a lot of crosscurrents that we need to pay attention to.

If I had to take a modal position, I would reiterate what I said at the last meeting, which is, again, I do anticipate the second half of this year to be pretty strong. I said so last time, and I do think that the modal outlook for 2010 is for economic growth around potential, maybe a little bit above potential, with, of course, only modest effects on unemployment and job creation. A number of factors support that, and the two most important factors since last time that influence my thinking are the improvements in the housing sector and house prices and the fact that global growth continues to be above expectations.

So that would be my modal forecast. I think we need to think about, if you will, the distribution of costs on both sides of that expectation. And, putting aside the probabilities and risks, I think you can make the case at this point that, given how far we are from full employment, given the fact that banks are just going to skirt by in terms of their ability to maintain adequate capital given the expected losses, the social costs of an outcome that’s weaker than we currently anticipate are on the margin greater than those if the outcome is a bit stronger than we currently anticipate. And independent of any considerations of insurance and risk aversion, I think that asymmetry in the shape of the cost function ought to make us still be focused primarily on supporting recovery, although we obviously need to pay close attention to the medium-term risks that others have pointed to.

As we will discuss in the next round, I think that high levels of policy stimulus are still warranted, but, again, absolutely in the spirit of demonstrating my open-mindedness, I do, in fact, quite seriously want to talk a bit about the downsides of policy stimulus which many people have already noted. Clearly, while inflation is not a concern now, we do have to pay some attention to it, because, as President Hoenig points out, the lags can be long and variable. I think someone mentioned that before you, President Hoenig.

I will make one observation, though, on this. Let me talk a bit about the determinants of inflation for just a moment. First, on the output gap side, I think I would like to associate myself with some things that President Yellen and President Evans said, which is that a lot of the ambiguities in the statistical and empirical work on the output gap and inflation come from the fact that, over most of the data sample, the output gap is sufficiently small that it is dominated by noise. It is very hard to know whether there is a gap, how big it is, and indeed, there may be nonlinear effects of the gap on inflation. Let me propose a very simple analysis. Just look at NBER peak dates—beginnings of recessions—which are typically known within a year or 16 months or so of the actual peak. Since 1960, looking at the second and third years after the peak date from the NBER, in all cases, total inflation has fallen in the second and third year relative to the year before the peak, and in most cases quite substantially, and in all but one, 1973, core inflation has also fallen, in most cases fairly substantially. So there does seem to be a recession effect suggesting that large output gaps do affect inflation, even if the linkage is not visible for small gaps.

That being said, I think inflation expectations are important, and one way that shows up is that the effects of output gaps are obviously much smaller now than in the past. We saw about a 2 percentage point decline in total and core inflation after the 1990 recession and only about a 1 percentage point decline after the 2001 recession. Of course, this is a bigger recession than either of those two, and we've already seen about a 1 percentage point decline in core, but I think the direction there is correct.

I think a few people talked about looking a bit at the components of inflation. We're seeing a substantial slowdown in services prices, including rents, which tend to be pretty inertial. So I think from that perspective we should see a slower rate of core inflation for a time, and from a cost perspective, unit labor costs are low as well. At the same time, I recognize that, of course, commodity prices, the dollar, and so on can move pretty quickly and probably respond much more quickly to policy and policy expectations than these other factors do, and so we need to take a balanced view.

I would also add that, on this issue of stimulus, there are other factors that I, at least, pay attention to in thinking about this over and above inflation per se—for example, the dollar. The decline in the dollar we've been seeing has been relatively moderate. It has basically only offset the gains that we saw late last year. Nevertheless, I think it would be very unfortunate if we had a more disorderly or more rapid decline in the dollar. It would potentially have implications for domestic interest rates, it might lead to concerns about financial stability, and, more broadly, it may exacerbate some of the problems of international economic relations and our role in the international economic order that is a long-term consideration.

Governor Warsh alluded to, I think, speculative activity in markets. Frankly, I don't really see any major bubbles at this point, but we haven't been that good at identifying them in the past, and we need to pay attention, I think, to any kind of excesses in financial markets that might be generated by our activities.

Finally, I think we do have to pay attention to our balance sheet. These issues are less important, of course, than our macro objectives, but there are political implications from large losses or difficulties in managing the balance sheet, and we have to think about that certainly as part of our exit strategy.

So, as a bottom line, like most of you, I see a strong second half as short-term factors play out. My modal forecast is for moderate growth next year. Again, like most of you, I do think that the downside risks are significant, and we need to be particularly attentive to that, and I think that core inflation, at least, should be well controlled in the short to medium term. Having said that, I fully understand and sympathize with the need for a balanced approach, which, even as we support this economy, keeps us alert to the problems of exit, which are clearly already beginning and will be an important part of our deliberations for some time.

Any questions or comments? President Lacker.

MR. LACKER. Thank you, Mr. Chairman. I just wanted to make a comment about slack, since that’s gotten a lot of commentary in past meetings from this end of the table. I don’t think anyone disputes the correlations you can find in the data or the correlations you get from the mainstream models we have. I think the question is: What’s the structural link? To talk about correlations between inflation and measures of slack without talking about monetary policy is like talking about *Hamlet* without the Prince. I think the point some of us would make is that you cannot rely on slack by itself. The correlation you see is sort of an endogenous interaction. I know you all understand this, but I’m just responding to the sense of puzzlement about what people who have talked about slack and potential output and inflation have in mind. I'm just speaking for myself here.

CHAIRMAN BERNANKE. It's a good point, but I guess my quick reaction would be that if you look at these recession episodes I just described, the role of monetary policy in those has varied quite a bit. Some of them earlier on were essentially caused by tight monetary policy, others much less so. So I think the commonality would be an aggregate demand effect. But, again, I'd be the first to agree that none of us has a really definitive, strong model of inflation, although for what it's worth, I think the reviews of the Greenbook have shown better success in forecasting inflation and output. I think that's the academic result. But, and I say this with all due respect to our colleagues who are doing the very best that anyone can do, neither one is incredibly successful beyond a few quarters.

Anything else? (No response.) Okay. Brian, would you like to open the next round?

MR. MADIGAN.[4] Thanks, Mr. Chairman. I'll be referring to the package labeled "Material for Briefing on Monetary Policy Alternatives." This package includes alternatives A and C as they were presented in the Bluebook and the revised version of alternative B that was distributed on Monday.

As was noted in the staff briefings and in your discussion so far, the economic outlook has improved further. Data on business investment have been stronger than expected, and incoming information on home prices, home sales, and housing starts points to a recovery in this sector. Also, financial market conditions have continued to become more supportive of growth. Over the intermeeting period, interest rates have moved lower, stock prices have climbed, and the exchange value of the dollar has depreciated further, providing additional impetus to aggregate demand. Moreover, indicators of market functioning have either held steady or improved further. The stronger outlook for economic activity has been reflected in substantial upward revisions to all of the staff estimates of short-run r*, including a ¾ percentage point increase in the Greenbook-consistent measure derived from the FRB/US model.

Still, these r* measures remain negative, and despite the positive economic developments, the forecasted trajectory of economic activity and employment remains quite weak. In the staff forecast, which is conditioned on an unchanged federal funds target range through the projection period, the unemployment rate

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

declines only to 9¼ percent by the end of next year and to about 8 percent by the end of 2011. The output gap remains correspondingly wide, with real GDP still 3½ percent below its potential in the fourth quarter of 2011. Although fairly stable inflation expectations are expected to restrain movements in inflation, the substantial output gap is still projected to push PCE inflation down to 1 percent in 2011, below the inflation objectives implied by FOMC participants' longer-run projections. Given this outlook, the counterfactual optimal control simulation in the Bluebook that does not impose the zero lower bound constraint would call for a reduction in the federal funds rate to minus 4 percent, if that were possible. With the funds rate constrained at zero, the optimal control simulations suggest that the funds rate should remain at zero until 2012. Similarly, simulations of the FRB/US model using the outcome-based policy rule prescribe holding the funds rate at zero for nearly two full years before policy firming begins.

Of course, significant risks—both to the upside and the downside—attend the forecast, as your comments so far have underscored. On the one hand, the Greenbook noted that the very low current levels of household and business investment suggest the risk of a greater-than-anticipated rebound in spending. On the other hand, the Greenbook pointed to the possibility of a further increase in the personal saving rate as well as to the risk of greater financial headwinds. Certainly, the incoming information from the banking sector, with exceedingly weak growth in bank credit and evidence that banks continue to tighten lending terms, suggests persistent restraint for the foreseeable future on spending by households and firms that are dependent on bank credit.

Against this background, the Bluebook once again presented a set of alternatives that provided a wide range of choices for policymakers. Under alternative A, the Committee would increase its large-scale asset purchases; under alternative B, the Committee would maintain the existing maximum sizes of its purchases; and under alternative C, the Committee would trim back its purchases. The alternatives also differ somewhat in the language of the statement.

The Committee might be inclined to adopt alternative A, page 2 in the package, if it judged that, despite the improved outlook, the expected outcomes for output and employment were not satisfactory or that the downside risks to that outlook were unacceptably large. The Committee's statement would again indicate that economic activity is leveling out and would note that conditions in financial markets have improved somewhat further. However, the language in the first paragraph would cite factors that could restrain economic growth and indicate that, absent further policy action, the recovery could be relatively weak, with slack in resource utilization diminishing quite slowly. To promote a sustained economic recovery and higher resource utilization, the Committee would increase its planned purchases of agency mortgage-backed securities by $250 billion to $1.5 trillion and extend these purchases through the second quarter of 2010. Staff estimates suggest that this action might lower longer-term interest rates by 15 to 30 basis points and reduce the unemployment rate two years ahead by as much as ¼ percentage point below a baseline outlook. The statement would continue to express the view that economic conditions are likely to warrant exceptionally low levels of the federal funds rate for an extended period. As shown by the red text toward the end of alternative A, this draft incorporates the suggestion that the more explicit phrase “low levels of resource utilization and subdued inflation” be substituted for the vaguer “economic conditions” in explaining the Committee’s expectation that the federal funds rate will remain very low for a protracted period.

If the Committee instead judged that the current maximum amounts of its large-scale asset purchases reasonably balanced the various risks confronting the economy, it might be inclined toward alternative B, page 3. Under this alternative, the Committee would also maintain its forward guidance regarding the funds rate. With these policy choices largely expected by the market, an announcement of alternative B seems unlikely to have much effect on market prices.

The first paragraph of alternative B would present a somewhat more upbeat picture of economic developments than that of alternative A. It would note, for example, that economic activity has picked up, albeit from a severe downturn, and would attribute part of that improvement to the housing sector. However, as in August, the Committee would also say that household spending remains constrained by ongoing job losses, sluggish income growth, lower housing wealth, and tight credit. The statement would note that business investment and employment are still declining, but at a slower pace. The statement would indicate that past policy actions and market forces will support a “strengthening,” rather than a “resumption,” of economic growth, thus suggesting that the Committee now sees a recovery as having begun, and would note that these factors would contribute to higher levels of resource utilization.

Paragraph 2 of alternative B would state that substantial resource slack and stable inflation expectations should help keep inflation subdued for some time. We suggested the revised language shown in blue in place of language included in the Bluebook, because, upon further reflection, it seemed best not to implicitly suggest uncertainty about whether or not inflation expectations are well anchored by using the word “apparently,” which was included in the Bluebook draft.

Under alternative B, the Committee would maintain the existing maximum amounts for its large-scale asset purchases, but it would shift back the completion date for these transactions either to the end of the first quarter or to sometime in the second quarter. If the Committee wanted maximum optionality regarding its purchases, it might retain the current “up to” language shown in blue brackets and extend the period of purchases into the second quarter. The longer time period for these purchases, along with the “up to” language, would provide the Committee more time to decide to scale back or end these purchases before the full $1.25 trillion were purchased. The Committee might find this flexibility valuable if it saw a significant chance that economic conditions ultimately would not warrant buying the full amounts. Alternatively, members might see this flexibility as useful if they saw significant risks regarding the Committee's capacity to eventually execute an exit strategy with very high reserve balances. Arguably, extending the completion date into the second quarter would also allow the Committee more flexibility to *increase* purchases in the second quarter in order to provide more stimulus in the event that the economic recovery flags; that is, it might be easier to ramp up purchases in the second quarter from a low level rather than from a program that had come to an end.

The cost of this flexibility would be less certainty in the markets about the ultimate size and duration of Committee's asset purchases and so somewhat higher mortgage and other long-term interest rates than if you committed to the maximum purchase size. If instead you fully expect to purchase the current maximum amounts and want to give market participants confidence that your MBS purchases will not fall short of their expectations in order to maximize the effectiveness of your purchases, you could drop the two words in brackets. As a memo from Brian Sack and his colleagues indicated, the Desk recommends tapering through the end of the first quarter, given the current maximum amount of MBS purchases of $1.25 trillion. I should note that, in the sentence on tapering and timing, we recommended changing "its purchases" to "these purchases" to make clear that the specified completion date of either the first quarter or the second quarter applies only to the current purchase programs, not to some possible future program.

A relatively small issue: The first sentence of paragraph 3 recognizes that various Federal Reserve liquidity programs have been closed or are being wound down by no longer referring to "all available tools." The Committee may wish to consider whether the adjective "wide" should be used to describe the range of tools being used to promote economic recovery and preserve price stability. There is some chance that a change to just "a range of tools" might be read by observers as signaling that the Federal Reserve was pulling back more sharply from its support programs than the revision in language was intended to suggest.

But the Committee might see the recent stronger-than-expected economic data as indicating that buying less than the full $1.25 trillion of MBS is desirable and thus see alternative C, page 4, as appropriate. Alternatively, members might be inclined toward alternative C if they were particularly concerned about the possible implications of very high reserve balances for inflation expectations or for actual monetary stimulus. In that vein, a decision to purchase less than the previously specified maximum amounts might also be motivated by concern that the Treasury will not rapidly rebuild balances in the SFP even after the debt ceiling is lifted, thus injecting more reserves into the banking system than the Committee had anticipated.

In comparison with alternative B, the first paragraph of alternative C would give less emphasis to remaining economic weaknesses and downside risks. The statement would also put less stress on resource utilization and suggest less of a role for slack in restraining inflation. Under this alternative, the Committee would indicate its intention to purchase about $1 trillion of mortgage-backed securities and about $150 billion of agency debt, less than the current $1.25 trillion and $200 billion

> maximum amounts. These purchases would be tapered and completed by the end of this year. The Committee would also revise its forward rate guidance to indicate that the funds rate would be kept at its current exceptionally low level only so long as inflation remains well contained and only until the Committee has greater assurance that the economic recovery will be sustained. With investors apparently coming to the conclusion recently that exceptional policy accommodation will indeed be maintained for a protracted period, market participants would be quite surprised by a statement along the lines of alternative C, and, as discussed yesterday, interest rates would likely jump noticeably.
>
> For your reference, the table on the next page summarizes the alternatives, and draft directives are provided on the final pages. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you, Brian. Are there questions for Brian? (No response.) I understand coffee is ready. We could have coffee now so that we don't break up the go-round. So we'll take 20 minutes for coffee. Thank you.

[Coffee break]

CHAIRMAN BERNANKE. Okay. Why don't we recommence and begin the policy go-round with President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. My preferred statement for this meeting is a slight variant of alternative C for basically most of the reasons that Brian Madigan alluded to. I think that the Committee is not yet ready to begin exiting from the "extended period" language of the statement. I happen to think it is time to do that, and I'm hoping that the Committee will get to that point relatively soon. So, given my understanding of the Committee's preferences, I'd like to address instead the language in alternative B. I think it's important to try to explain to the Committee my concerns and why.

I think that this debate about slack is at the core of thinking about policy, and that means the Phillips curve is at the core of how we think about monetary policy. In my view, it is true that the data and most of the empirical research suggest that the relationship between inflation and the output gap, at least the simple bivariate relationship, is not terribly stable—it tends to vary over time. And it tends to vary over time in part because, as President Lacker said, the Phillips curve is usually estimated as a reduced-form statistical relationship. It is not necessarily a structural one. One of the things that I think we know about the Phillips curve relationship, as it is usually thought of, is that a necessary, although not sufficient, condition for this relationship is stable expectations of inflation. In order for us to have any predictable relationship between the output gap and inflation, we need stable inflation expectations. And one of the things that is important for the stability of inflation expectations is that the public forms expectations about inflation, and the actions and language of monetary policymakers can shape those expectations.

Therefore, my concerns are about the language we use to explain our current policy actions and how it may shape expectations going forward. And I think we have to be careful about that language, so that it reflects the importance of expectations, and so that it reflects the fact that expectations don't move independently of either our words or our actions. We know that expectations matter from past episodes. Marvin Goodfriend identifies inflations scares in 1983 and 1987. They tended to occur when the Fed has tried to exploit the Phillips curve by delaying in raising rates (or in cutting rates after the economy has weakened). The response to both of these inflation scares was that inflation expectations were cut off by the Fed's reacting and raising rates to fight the inflation scare, thereby preserving its credibility to maintain price stability.

I think one of the questions that the Committee has to ask itself and be prepared to act on is: How would it react if there were an episode where inflation expectations do begin to rise, or inflation begins to rise because of fears of the size of the Fed's balance sheet, because of fears of monetizing the debt, or whatever? And if that happens when slack is high and large, as it is now, how will the Committee respond?

I think that putting expectations of inflation in paragraph 2 of the statement was a very important step forward, although from a language standpoint I think it should be stronger than it is. I think the statement ought to read, "With longer-term inflation expectations stable, substantial resource slack is likely to dampen cost pressures and keep inflation low." I want it to be a conditioning statement, not a passive statement, as if expectations were kind of an afterthought. If we can reverse those clauses, it would be a more accurate statement about, I think, what we actually know about the Phillips curve.

I also think that the language in the statement has to be consistent with giving us the option to raise rates at some time in the future, when slack, however you choose to measure it—whether it be unemployment or output—is high. What I fear about this language, and our persistent use of resource slack in the statement, is that we're creating the impression that we will not act in response to inflationary concerns. I think we need to be more balanced and nuanced about the nature of the language we are using to ensure that we will act, if required, to preserve both aspects of our dual mandate. I also worry that, without both the conditioning aspects of inflationary expectations and more about preserving price stability, we're potentially creating a problem where the public will come to perceive that we will not act until resource utilization is high or higher at some point.

The measures of resource utilization, I think, are problematic. I think we have a very difficult time measuring resource utilization, and I think we have a difficult time measuring inflation expectations. But I don't think that absolves us of the responsibility of having to deal with both of them. Choices among measures of resources utilization depend a lot not only on statistics and on measurement problems, but also on what kind of model one has and different models yield different measures. At the Philadelphia Fed, we have a DSGE model, sort of a workhorse neo-Keynesian macro model. There, our resource slack measures are about minus 3 percent, as opposed to minus 6 or 7 percent as in the Greenbook. Well, what does that say? They both contain measurement error, clearly, yet where do you start?

The question is not what we do today, but what we do down the road when we reach the point where we are going to have to make a decision. And I'm terribly worried that we might get ourselves into a position where we cannot make that decision. As the resource gap narrows, obviously, we'll get closer and closer to facing a very difficult choice.

So I think this is really about language. It's about shaping the state-contingent nature of our policy actions, and those policy actions depend not just on resource slack, but also on the path of inflation and inflation expectations. I think we need to make that clearer, and I think the language in alternative B is unnecessarily distorted towards saying that we don't care about inflation—that policy is going to be flat for as far as the eye can see. And I think that's potentially misleading. It is also problematic, because it sends a signal about how policy will react. I think we have to be very worried about that, and I'm very sensitive about that, which is why my focus and my comments yesterday were a lot about expectations—not that they're easy to measure, but that they matter a lot in this context. And I think we have to preserve our flexibility.

I'd like to make three points about the language in alternative B. First, in paragraph 1, we added new language about a gradual return to higher levels of resource utilization. I'm not exactly sure where that language came from. It's new language. I don't know why we want to bring it back in. I'd prefer just to see us say, "Strengthening of economic growth," and eliminate the phrase "and gradual return to higher resource utilization" and "in the context of price stability." I have real problems with "in the context of price stability." I don't know what that means. It seems to convey that somehow we're not responsible for that context or that we don't have to be accountable for it—it's sort of an environmental factor that we react to. I think higher inflation and higher inflation expectations should not be treated as an environmental factor. They should be something we take responsibility for. Second, in paragraph 2, I have already suggested that I would prefer to see "with longer-term expectations stable" as the opening clause, as a conditioning clause, that says that is what permits slack to keep inflation contained. And, third, as to the "up to" phrases, I think it is terribly important that we keep "up to." Even if we're not ready to cut, I think, given the nature of the recovery, if we stretch this out too far, we may find ourselves in this conundrum of buying MBS and maybe trying to raise rates at the same time, in which case undoubtedly we would stop buying MBS. So I think we need that "up to" language.

I think this debate is really about forming the language and the expectations of the path of monetary policy, not about what inflation is doing today, or maybe even what it is going to be doing next quarter or the quarter after that. I have no fears of inflation in the near term, but it's about shaping the longer term, about keeping our options open, so that we have the ability to act and do act when the time comes. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Rosengren.

MR. ROSENGREN. Thank you, Mr. Chairman. I support alternative B. The Greenbook forecasts disinflation and high unemployment rates over the next two years. I agree with this forecast. These outcomes occur with an assumption that the federal funds rate will remain at exceptionally low levels for an extended period of time, so I am very comfortable continuing to say that in the statement.

In terms of the LSAP program, we should purchase the entire $1¼ trillion in mortgage-backed securities. We should also taper the program, though I would prefer to leave the completion date flexible depending on market conditions. I have a strong preference not to end the program prematurely.

I agree with Presidents Evans and Yeltsin—Yellen—[Laughter]

MR. FISHER. I've gone drinking with Janet. She's no Yeltsin. [Laughter]

CHAIRMAN BERNANKE. Okay. The last two minutes will be struck. [Laughter]

MR. ROSENGREN. Continuing with my statement, that persistently high unemployment is likely to result in low and falling inflation. This suggests that we will need to maintain an accommodative stance for some time to come. We have only tentative signs of a recovery at this point, and we should not take actions that risk reversing these initial positive signs.

I, too, have a couple of comments on the language. I would remove "up to" for two reasons. Not completing the $1¼ trillion purchase will signal that we are content with the path where inflation is below my target and the unemployment rate is above my target through the forecast horizon. I do not want to send such a signal. Second, housing is improving. However, the first-time homebuyer tax incentive is ending at the end of November, and I would not want our support for housing to end at the same time. I would also change the sentence on tapering to remove the last clause and instead say, "The Committee will gradually slow the pace of its purchases in order to promote a smooth transition in markets." This would provide flexibility in tapering and highlight our goal of ensuring a smooth transition. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. Now that the economy has stabilized and looks as if it's beginning to recover, albeit perhaps tentatively, I think it's time to start calibrating our policy stance a little more carefully. You argued, I think quite convincingly, for the array of factors affecting the outlook, and obviously the implication is the great uncertainty about just how that balance of forces is going to play out. And you argued compellingly, I think, as well for nuance in our views. And I think that needs to be reflected in our policy stance as well.

The maximum amounts for our purchase programs were set back in March, amidst the bleakest days of the recession. We made very rough estimates of what was needed, based on the best analysis we could muster coming into that meeting. But, if you read the transcript, we changed those numbers on the fly. Things looked potentially very grim, and we picked large numbers and raised them during the meeting, and I think it was out of a sense that we wanted to convey credibility to our commitment to do what it took. But to some extent, looking back on that, and looking back at the deliberative process, the numbers were somewhat arbitrary at the time. We deliberately set maximums rather than predetermined amounts, so that we could take advantage of incoming information and adjust our plans accordingly. We explicitly have acknowledged in our statements that we would monitor programs and make adjustments as warranted.

We've talked a lot at this meeting and previous meetings about the extent to which, until now, our asset purchases have just amounted to our displacing short-term borrowing, and about the fact that our short-term borrowing has had us basically accommodating an elevated demand for reserves, and about the fact that we haven't perhaps done much by quantitative easing until maybe the last couple of months; perhaps we did so as well in the February to May time frame—I don't know. But as I said yesterday, I think we're at the point where, from here on out, every additional purchase represents additional monetary stimulus in the quantitative easing sense, as if we were continuing to cut rates.

I would point out again, over $300 billion is going to be added to reserve balances from MBS settlements and the runoff in the SFP, and new MBS purchases would provide additional reserves on top of that. If we continue with our asset purchases, my sense is that that's going to give us further declines in rates, albeit from very low levels, and albeit of an uncertain amount, and I'll acknowledge that it could be small, as Bill English's analysis yesterday showed. But my sense is that we're going to get more stimulus than the Greenbook assumes. Again, how much more is quite hard to know, obviously.

A couple of other factors are relevant here, at least to my thinking. First of all, it's not clear what net stimulus the MBS purchases are providing, over and above their effect on reserves. If you look at the OIS spread, which has been, relative to its historic fluctuations, essentially near zero for a lot of this year, it suggests we have gotten to the point where maybe MBS, which are issued by an entity that is, after all, in government receivership, is a perfect substitute for Treasuries. And you would expect at that point that buying MBS is just like buying Treasuries.

We talked earlier this year about the effect of different purchase program strategies, whether to buy Treasuries or MBS. The staff did the best job it could, with limited data and limited natural experiments to go on, to give us a sense of what yields would do. But they didn't give us any evidence that would refute the hypothesis that you would come to naturally, from just looking at a standard model, namely, that if we're successful in driving down MBS rates, then that would come at the expense of raising rates elsewhere in the economy. It has never been clear to me that lowering mortgage rates is, on net, stimulative to the economy. And I'll admit we don’t have much evidence one way or the other, but it’s hard for me to rule out the notion that we’re just shifting credit from one sector of the economy to the other.

I’m happy to stipulate, as Vice Chairman Dudley requests, that we are not worried about an exit strategy. I’m sure we can find an exit. The question is which exit we want to take. I’m fine with the idea that we can find an exit strategy that raises rates, but I think there’s an important question as to what we are going to exit to, what regime we’re going to be in afterwards. And I think the open question has to do with how big our balance sheet is and what’s in it when we finally exit. I’m sure there’s going to be resistance to selling MBS down the road—I can just sense it. Our plans are to hold on to it, let it roll off. There would be political headwinds on that. So I’m reluctant to have us essentially be the housing lender of last resort. And it strikes me as odd that we would head towards a configuration of our balance sheet in which we’re issuing nonmonetary liabilities to fund housing debt—the political economy of that for a central bank just strikes me as odd. And I think we ought to strive to avoid it.

So all of these factors make me wary of increasing our MBS portfolio any more than we need to. I’m not ready to say now that we ought to scale back and cancel all the rest of the purchases, but I think we need to leave our options open. Between now and the next meeting, I think we’ll learn a lot about this quantitative easing question, if the projections are correct. So I would argue strongly for retaining the “up to” language.

On other questions, I like the idea of tapering. I like President Rosengren’s suggestion of language that is less committal about the timing. In particular, if we do include the phrase “second quarter,” the preposition “in” implies that we’re going to get all the way there, so it might be better to say “by the second quarter” or “by the end of the second quarter.” That way we're not committing to purchase enough to get us to the second quarter. And I'm happy with dropping the word "wide." Thank you very much, Mr. Chairman.

CHAIRMAN BERNANKE. I just wasn't quite clear on your last point. What was your preferred language for the end of that sentence?

MR. LACKER. Well, if we're going to do "second quarter," it should be "by the second quarter" or "by the end of the second quarter," rather than "in the second quarter," which implies we get all the way there.

CHAIRMAN BERNANKE. I see. Okay. Thank you. President Yellen.

MS. YELLEN. Thank you, Mr. Chairman. I can support alternative B today, but I do so reluctantly. I think our asset purchases, especially our MBS purchases, have been successful in lowering longer-term borrowing costs and supporting the housing sector and the broader economy. In addition, I believe our toolkit to remove accommodation when the time comes is ample. That said, I agree that further expansion of our MBS program entails some risks and possible costs along with the benefits.

Given the improvement in the economic outlook and in financial conditions since our last meeting, I'm not prepared to argue for an expansion of the program today. But I strongly agree with Vice Chairman Dudley and President Rosengren that we need to complete the full $1¼ trillion in MBS purchases that markets now anticipate, and I'd like to do so in a manner that is least disruptive to the mortgage market. I, therefore, favor striking the words "up to" in alternative B. Curtailing our purchases at this late stage in the program would likely push up mortgage rates, and I believe it would be taken as a signal of an earlier exit from near-zero interest rates than markets now consider likely.

In addition to removing the words “up to,” I would like to soften some of the language concerning the timing and completion of the program. And, following President Rosengren’s suggestion, I think we don’t need to announce a definite end date for the program at all, and I would support his suggestion. This would give added flexibility, I think, to the Desk in gearing the timing of the phasedown to evolving marketing conditions. If we do end up giving a time frame—Q1 or Q2—I would like to propose that we substitute the word “executed” for “completed” in paragraph 3 of alternative B, in other words, to say that we anticipate that they will be executed by, say, the end of the first quarter, or however that’s decided. I think that substitution subtly distinguishes our characterization of the Treasury program, where we use the term “completed,” from our MBS purchases. I believe that leaves the door slightly more open to ramping up the pace of our purchases again, if the recovery does end up suffering a significant setback and we face—Governor Tarullo, what was the name you gave the scenario?—

MR. TARULLO. Relapse.

MS. YELLEN. —a relapse scenario. In that event, the balance of costs and benefits of further MBS purchases could reverse. So I do not want further expansion of MBS purchases or other initiatives to be entirely off the table.

Although I can agree to leave the size of our MBS program at $1¼ trillion today, I see a strong case on policy grounds for further monetary stimulus. Core inflation is currently below my price stability goal of about 2 percent, and the unemployment rate is well above my full employment goal of about 5 percent. I anticipate a tepid recovery, but even if the recovery is somewhat more robust, this situation will persist for many years.

I am pretty sure that, if it were possible, we would at this point have taken the federal funds rate into negative territory. That would be consistent with our historical behavior, with optimal policy calculations, such as those reported in the Bluebook, and with the guidance of most policy rules. Unfortunately, so far this year, the nominal funds rate has been fixed near zero while core inflation has fallen. So the real funds rate has risen. In this sense, monetary policy has actually tightened this year, although circumstances—namely, the increase in unemployment and decline in core inflation—seem to call for more monetary stimulus. Even taking account of our large-scale asset purchases, I think the effective degree of easing, given the dislocation in financial markets, likely has been modest relative to past recessions.

I agree with President Plosser that communications are a logical device to use, and I think the most obvious way to provide additional stimulus without further balance sheet expansion is to use language designed to bring market expectations of the funds rate path into closer alignment with the Greenbook path, thereby lowering medium-term rates. Market expectations concerning the likely path of the funds rate have come down over the intermeeting period, but there is still a gap between market expectations and the Greenbook path, which coincides with my own preferred path. To help narrow that gap, I propose replacing the language in paragraph 3 of alternative B with the language in paragraph 3 of alternative A. Specifically, I would replace the vague phase "Economic conditions are likely to warrant exceptionally low levels of the federal funds rate for an extended period" with the alternative phrasing stating that "The Committee anticipates that low resource utilization and subdued inflation are likely to warrant exceptionally low levels…." This language would indicate to markets that the FOMC will not raise rates merely on the basis of strong economic growth if, in fact, we are nowhere near maximum sustainable levels of employment and activity and if inflation is subdued. It would provide a conditional statement that would usefully inform the expectations of financial market participants. I know that this phrasing will not appeal to those members of the Committee who reject the notion that slack influences inflation. But it is consistent with the language of B that already embraces the logic of such a linkage.

CHAIRMAN BERNANKE. Thank you. Governor Kohn.

MR. KOHN. Thank you, Mr. Chairman. I support alternative B, and I'll discuss some of the different language choices in a second. There are three premises to my policy recommendations. The first is that the most likely outcome for the economy, even with rates very accommodative for an extended period, is still unsatisfactory. It's less unsatisfactory than it was at the last meeting, the meeting before that, and the meeting before that, but it's still unsatisfactory. One of our legislative objectives is high employment, which I take to be somewhere in the neighborhood of the NAIRU. Even if the NAIRU is higher than 5 or 5¼ percent, we are going to be, in my view, above that for a long, long time. Furthermore, inflation is more likely to be below the 2 percent that most members of this Committee favor for an objective than above it. So I think we're going to be away from our legislative objectives for a while. I agree with President Hoenig and President Plosser that we're going to have to raise rates before we get to full employment. We've always done that, and we're going to have to do it again, as well as anticipate getting there. But I just think that the size of the output gap—even given a range of estimates—and the likelihood that the economic recovery is going to be gradual suggest that it will be at least an extended period—whatever that is—before we have to do that. So one implication is that I don't think we need to tighten in any way, shape, or form in response to the better outlook. The better outlook just gets us to a less bad place.

The second premise is that we're in a liquidity trap. Reserves and other short-term obligations, particularly riskless obligations, are pretty much perfect substitutes. Banks will hold more reserves now without much, if any, effect on other interest rates. So I don't view additional reserve provision as an easing of policy, and it's certainly not comparable with reducing interest rates. Now, these reserves could be stimulative in the future—I agree with that—if risk-adjusted returns on bank loans and securities begin to look favorable relative to the rate we're paying on deposits. But they don't look favorable now—we got that from the survey Bill English reported on. I think that when they begin to look favorable—when we begin to see the movement we were looking at before—I think we can begin to exit.

That leads me to my third premise, which is that we do have the tools, or the staff is in the process of making us the tools, to neutralize or absorb reserves and raise rates when we need to do so. The efficacy of those tools is not materially affected by $200 billion or $300 billion more of reserves—they'll work just as well. Now, I agree, Mr. Chairman, this is something we need to continue to worry about and to work on. But I am confident that we will be successful in designing the exit tools. Using them is something else, but we will have the tools when we need them.

That leads me to some comments on alternative B. I think paragraph 1 strikes about the right balance. Things are looking better, but it's not clear how much better. The labor market remains very weak. We've had all of one month of an increase in sales in the retail control group, so to say that consumption is really on a strong upward track I think is a very, very tenuous conclusion. So I think that paragraph is about right.

With respect to the last sentence that President Plosser discussed, I view this sentence as a forecast rather than an objective—we're forecasting that this is going to happen. However, when we reference what we will do, it's in the first sentence of paragraph 3. Specifically, when we reference our tools, we say, "We will employ our tools to preserve price stability." That's a key message, and I agree with you, President Plosser, that it's critical to keep that message in there. But I don't see it being contradicted by the last sentence of paragraph 1. I like the addition of "the gradual return to higher levels of resource utilization." Now that the economy has turned around and is improving, our actions aren't keyed just to whether the economy is growing or not, but also to how fast it's growing, so I thought this was a good addition.

In paragraph 3, I'd like to focus on a couple of things. I think the shift from "all available tools" to "a range" or "a wide range of tools" is a nontrivial shift in tone and will be noticed. I think it's fair to say that our intention is not to use all available tools, if the economy follows something like the baseline forecast, because there are costs to using these tools relative to the benefits. But I think, as Governor Tarullo said, if the economy is less robust, if inflation continues to decline, if inflation expectations start following inflation down—and I think there is a significant risk of that—the Committee should consider using longer-term LSAPs, and lowering the rate on excess reserves. And, certainly, under those circumstances, I'll be arguing for those actions. With inflation coming down, the adverse effects—that is, the costs in terms of potential inflation expectations—will be much less than they might have been before. I do not interpret the change in language here as ruling out the possibility of using those tools if circumstances change and don't turn out the way we want them to be, and I wanted to make that clear to the rest of the Committee. I think it's important to retain the extended period. I don't know whether that means 2011 or the second half of 2010, but even if it's the second half of 2010, that's quite a ways from now, and it's way too early to signal anything.

I would taper the agencies down, and I don't feel that we have to go to the full $200 billion—if we fall short of it, that's fine. So I would certainly keep the "up to" for the agencies. With respect to the MBS, I would taper that also, but in the context of announcing that we'll complete the program. I think completing it is what the market expects—it's built into rates. Not doing so would raise interest rates. I don't know by how much—it could be 5 basis points, it could be 35 basis points—but I'm pretty sure the direction it would go in, and, given my outlook for the economy, that's not the right thing to do. To me, that would be a tightening of policy relative to market expectations. And I do think markets also expect that the additional purchases will result in more reserves, and if they're thinking in quantitative easing terms, they've probably also built that into market prices. So I think not completing it would be contrary to expectations and would be a tightening of policy; and, as Vice Chairman Dudley noted yesterday, I think the effect to be concerned about—even more than the rise of a few basis points—would be the signaling that we're getting ready to exit a lot of things very quickly. So, although I don't think keeping "up to" in there would be a major problem, I do think it would leave uncertainty. I think now is the logical time to announce the full programs consistent with what we did with the Treasury. Why leave markets uncertain? So I would delete "up to" in front of the agency mortgage-backed securities phrase. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. As I see it, current FOMC policy has three parts. One part is our liquidity programs, one part is an asset purchase program, and the third part is a near-zero interest rate policy.

The liquidity programs are running off, and, in my view, that seems to be going smoothly. I would see that as the panic receding and as our having performed our lender-of-last-resort function by developing liquidity programs to address the crisis.

On the near-zero rate policy, if you look at the previous two recessions, it was about two and a half to three years before a rate move following the end of a recession. So it could be that this FOMC is different from previous incarnations, and I do think that the "too low for too long" argument will weigh heavy on us in the coming quarters. But just taking the staff forecast at face value, and taking the experience in the previous two recessions, we are looking at a rate move in the first half of 2012, if you believe that back of the envelope estimate. During the interim, more shocks are going to hit the economy. In my mind, the question is how to run an active monetary policy to be able to react to these shocks while your interest rate policy is going to remain on hold for some period. It seems to me, like any reaction, it would have to come through asset purchases. So the question is how to do this.

The policy we're contemplating, to me, looks like this. We're contemplating ending the asset-purchase program in the first half of 2010, and we're contemplating letting the natural runoff draw down the purchased MBS over a period of several years, as long as six years. A round number for that runoff is $200 billion a year, so let's just tuck that away and keep that in mind. We're going to use other tools to control the flow of excess reserves into the money supply, if we should get into a situation where the excess reserves start to move in that direction. In my view, there's nothing optimal about relying on this natural runoff. This is just an unconditional decline, regardless of how news arrives about economic performance. So in my view, the question would be: Can we do something that leaves the Committee in a better position to control this situation?

Here's my suggestion. I think we could taper, as suggested by the staff, but not to a full exit from the MBS purchase program, or, more generally, asset purchase program, as suggested by President Rosengren, President Yellen, and many others in the discussion just now. In my view, if we quit the program altogether, it will be harder to make adjustments. Of course, you could always come back and say, "I'm going to restart the program," but it's going to be very difficult, and it would take a big event to get that going. So one idea would be—and I talked about this last time—to taper to a very low number; a number that makes sense to me, just to fix ideas in our head, would be something like $4 billion per week. That would add up to roughly $200 billion a year, and I would leave it to the Desk as to the best way to transition to that.

You could think of that, maybe, as a neutral policy, then—you'd be replacing the natural runoff. And you'd still have a program that was intact. Then, you could take action from there depending on how conditions evolve and how the recovery evolves going forward. So this is one way to go to a much lower growth rate of MBS purchases. By keeping the program open, we can react as news arrives on the economy. If the recovery is unexpectedly soft or we face renewed problems, we could increase the pace of purchases, though probably not up to numbers like $50 billion a week. If the recovery is unexpectedly robust, we could consider selling some amount per week, probably without too much market disruption. Of course, we would do all of this in conjunction with other tools, such as interest on reserves and reverse repos.

One idea about going in this direction is that it might help us avoid an early pullback from our quantitative easing program, like the one that doomed the Japanese quantitative easing program in the early part of this decade. I don't think we want to get into that boat. I'm describing an alternative strategy for where to place the asset purchase program in 2010. The discussion today is mostly about tapering and the size of the MBS program. My proposal is to think less about the size of the program in an absolute sense and more about how we might want to adjust the program going forward based on incoming information. I would agree with President Lacker that as long as we continue to purchase assets, we're implementing a policy of further easing. So I don't really see how we're pulling back in any sense on that. The liquidity programs are running off, but I see those as related to the panic.

For today I support alternative B with some caveats. Like President Plosser, I think we should retain the "up to" language to retain flexibility. I'm talking about transitioning to a slow pace of purchases, but not to zero, in a reasonable time frame. We may end up at a level of anywhere between $1 trillion to $1.25 trillion, but it does not have to be $1.25 trillion. For the agency debt, it may be reasonable to stop short of the $200 billion, given the market disruption and the difficulties there. So, like Governor Kohn, I would want to retain flexibility by keeping the "up to" language.

I prefer the second quarter of 2010 for the transition. I guess my idea was, at least for today, that would give us some room to continue to adjust our program at future meetings and maybe move to this small flow purchases model at some future date.

And, lastly, I think it is entirely appropriate, as in alternatives B and C, to mention the stability of inflation expectations in paragraph 2 when talking about the inflation outlook. In my view, this better reflects modern theories of inflation determination and, I think, views around the table. I think most everyone talks about slack in the context of stable inflation expectations. As I said yesterday, I'm actually suspicious of how anchored these expectations really are. I think we're seeing a lot of faith in the Fed, even in the face of our unprecedented policy actions. My sense is that informed opinion on inflation is as widely dispersed as it has been at any time since the 1970s in the United States. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. So, President Bullard, you said that you wanted to retain "up to." Did you have a thought on the next sentence about the tapering that would fit with your proposal?

MR. BULLARD. Starting with the red part?

CHAIRMAN BERNANKE. "The Committee will gradually"—

MR. BULLARD. "The Committee will gradually slow"—

CHAIRMAN BERNANKE. It says it will be completed.

MR. BULLARD. I would like to leave it more open. I don't have exact language. Was this what you were proposing, President Rosengren?

MR. ROSENGREN. I was talking about putting a period after "markets" and taking out the last clause.

MR. LACKER. Those seem consistent.

MR. BULLARD. I wasn't sure if what he was suggesting was consistent with what I said.

CHAIRMAN BERNANKE. President Rosengren and President Yellen suggested saying "gradually slow the pace of these purchases in order to promote a smooth transition in markets." Let me just say now that I think that there's an important interaction between that decision and the "up to" decision. If we're going to be unclear about our time frame and unclear about the final amount, those two things together are somewhat concerning. But that's one possibility.

MR. BULLARD. I guess my thought was just to take it to the second quarter and then, if you wanted to go this direction, you could do so at a future meeting.

CHAIRMAN BERNANKE. Okay. Thank you.

VICE CHAIRMAN DUDLEY. Mr. Chairman, a two-hander.

CHAIRMAN BERNANKE. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Mr. Chairman. I think that I have some sympathy with taking out the "first quarter/second quarter," but we have to recognize that the Desk has to have instructions on what it actually has to do, so there's an issue of what their baseline is in terms of their action. If we take out the language about "first quarter/second quarter," there still needs to be an understanding in terms of what is communicated to the Desk, so that at least they know the starting point of the taper trajectory.

CHAIRMAN BERNANKE. Thank you. President Hoenig.

MR. HOENIG. Thank you, Mr. Chairman. As I look at the circumstances that we're in, I would prefer alternative C. And I don't say that lightly, and I don't say it because I don't happen to be voting. I don't have to put it out there—that's an issue sometimes.

I think it's important that we look at the stance of policy, and we're in a very accommodative stance today. And looking ahead to 2010, 2011, 2012, we're still going to have a reasonably accommodative policy. I recognize that the short-run costs are always right before us. And I don't want to stanch this recovery any more than anyone else does, and that is a major concern. I remember, perhaps unfortunately, sitting around worrying about 1 percent inflation in 2002 and 2003, worrying whether we would have deflation, and worrying about short-run issues as we kept rates low for an extended period of time—I think that was our language. I just want to make sure that we're thinking about the long-run costs of this much stimulus and of the difficulties we will face ahead in withdrawing it, because we've never before used these tools to neutralize this much stimulus. We have enormous reserves in, and already some of the "chasing yield" has begun with this amount of funds out there and available. We are taking on not only risk in the short term and on the downside, but, by delaying, we also are taking on longer-term risks, which may seem easier to take on precisely because they are longer term. So I'm very sensitive to that.

I also am very sensitive to the fact that this might surprise the market, and that is a very serious worry. But at some point I think we need to surprise the market, to some degree, and that is why I was so interested in what the basis-point effect on mortgage rates would be as well as the psychological effect. But I think it's a risk that we need to take on at this point, because if we don't announce this now, we will be very close to year-end at our next meeting, and I don't think we can then say that we're really pulling this stuff back. At that point, I think we'd be even more reluctant to do it. So now we can shoot for year-end. We could tell them we're not getting out now, and we're going to move this very carefully towards year-end. In the long run, I suspect that we'd have—I can't say better outcomes—reasonable outcomes.

There are a couple of other things. I would push for first quarter—if at all possible. Also, I'm uneasy with the phrase "extended period," because it has been such an issue with me in the past. So I'll end with that. Thank you.

CHAIRMAN BERNANKE. I infer that you want to keep the "up to," though.

MR. HOENIG. "Up to," yes. [Laughter] Safe bet.

CHAIRMAN BERNANKE. Okay. That's what I thought. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. Like so many others, I'm also going to support alternative B. To me, it's the stay-the-course alternative at this stage. So many have said that the recovery is under way but fragile or tentative, so I think it is still appropriate to be cautious about that. And the inflation outlook, in my mind, doesn't warrant a policy response. I think there's a great deal of consensus around the table about the state of the economy and the outlook, so it strikes me that this is really more about the language in the statement and the way we communicate with markets and the public, which is, to some degree, more in the realm of psychology.

As I think about that, I certainly believe that paragraph 1 is sufficient to convey an accurate depiction of the economy as it stands today, and I'm comfortable enough with it. I do think it's important to convey a commitment that we are going to stay the course, to follow through. I think the removal of the "up to" language conveys this. I don't have terribly strong feelings about it, so I'm certainly not going to argue strongly if the consensus is to keep it. I do think it's a small change, but it does help build confidence that we'll follow through with the programs that we have in place. At this point, I don't think we want to suggest an itchy trigger finger regarding exit.

I have a couple of other comments on the suggested language. Again, I'm a bit ambivalent about the inclusion of the word "wide." I think it could generate a lot of speculation about what we mean by it, and I think continuing with the language of simply "a range of tools," which is a little more measured, is adequate.

There are a lot of language revisions already on the table, and it's going to be difficult to sort all of them out, so I won't add to them. But I would make the final comment that the difference of opinion around the table is more about language than it is about the conditions. And I agree with your comment, Mr. Chairman, on the need for a nuanced policy. I'm a little concerned about a too nuanced statement that tries to capture all of those sentiments. So I tend to prefer much of what's on the page now and what's been proposed along with the removal of "up to." I think that will convey the necessary continuity and follow-through that we want. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Fisher.

MR. FISHER. Mr. Chairman, I submitted comments on September 16. Many of them were incorporated in the statement. I don't want to repeat myself. I assume, Brian, they are somewhere in the record.

Someone at the end of the table mentioned *Hamlet* and the Prince earlier, and it brought to mind the debate over the B-2 bomber, which was B-2 or not B-2, that is the question.

[Laughter] It seems to me that what this discussion is all about is "up to" or not "up to," that is the question. By my count, we have had four in favor of keeping "up to" and four in favor of striking or deleting "up to." I'm in favor of keeping "up to," because I think it gives us maximum flexibility. I'm in favor of incorporating the phrase "these purchases," and I would favor President Yellen's "executed by the end of the first quarter." I would strike the word "wide," because a range is a range. I don't think "wide" adds much. It does probably raise some questions of what other ideas we might have up our sleeves, and it might raise questions that we are not able to answer. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Evans.

MR. EVANS. Thank you, Mr. Chairman. I favor alternative B. It seems that this is the most disparate set of commentary I've heard on policy alternatives. It's a very interesting meeting, and I hope I can add to that spirit. [Laughter] The economy is beginning the recovery phase. I think the risk profile is better—it's more balanced. That doesn't change the fact that it's not a very desirable path, as many have pointed out; the unemployment rate is going to remain high for quite some time. In terms of the inflation outlook, it seems to me that we're going to be undershooting our implicit objective, in that we're likely to stay below, I would say, a 1½ percent inflation rate for some period of time. There is a wide range of risk, as we have said, and, as President Yellen mentioned, by some estimates of the TIPS inflation compensation markets, compensation's up, and that must mean that the variability in inflation is up, higher or lower. I find that quite interesting.

Mr. Chairman, I agree with you that, viewing the balance of the social costs that we are facing, those costs seem a little towards the downside. With that in mind, looking at paragraph 1, my reaction was different from President Plosser's and more like Governor Kohn's regarding the phrase, “a gradual return to higher levels of resource utilization in a context of price stability.” This seems to me the only place where we can possibly point out that the unemployment rate will remain high over some period of time. The only other reference to job loss is with respect to its influence on consumption. We could change “resource utilization” to something more like “the unemployment rate will gradually decline,” but I’m not anticipating many people would prefer that type of language. And I view the phrase “in a context of price stability,” as consistent with the observation that inflation is going to remain below 2 percent for a couple of years. We can disagree on that, but that’s how I view that sentence, so I found it to be quite good.

In terms of policy, I think we’re responding appropriately according to the circumstances. Monetary policy is accommodative: The federal funds rate is about zero, we’ve got our large-scale asset purchase programs, and there’s no real expectation that the funds rate is going to rise in the foreseeable future—nine to twelve months, maybe it will be longer. I’m sympathetic to the arguments that the current path of the recovery is highly undesirable—we’d like a lower unemployment rate. But I just think that there are limits to our policy effectiveness. I think I am different from many of the views expressed here. Given the limitations I see in our effectiveness at this point, I think we’re at a pretty good position, and I don’t think that we can really do that much more.

So I favor alternative B. Having heard some of the comments that you made, Mr. Chairman, and that the Vice Chairman made on our exit tools, at the end of the day, I do trust that our exit tools are going to be sufficient to allow us to embark upon a more restrictive policy when we deem that appropriate. If we can sell our assets, I think that will work if interest on reserves doesn’t work.

In terms of MBS, here's where I'll be different. I prefer a definitive choice today. I just don't see any benefit to postponing what strikes me as the inevitable purchase of $1¼ trillion after listening to everybody around the table. I would be aghast if we found a way not to do $1¼ trillion. Why not recognize that now, inject a little more certainty into markets on that score? I think that, if we leave it open, we are going to struggle with this issue later in terms of the rate effect. We don't fully appreciate why MBS yields are lower. Is it the stock effect, or is it the flow effect? Well, there's an unfortunate aspect to putting a lot of weight on the flow effect—as Brian at one point said, maybe it's 50–50. If it's 50–50, then, when we are done, those rates will go back up, because the flow will no longer be there. If we have to look higher rates in the eye in the first quarter of next year, I think we're going to be wringing our hands over it. Now, maybe that's the right thing. I don't have a problem with being definitive now and then saying that circumstances are such that we need to apply more accommodation. We did that all the time with the funds rate, and I just don't think that these policies ought to be that different. So I would prefer a more definitive choice. Because of that, I guess I'll make it five and five—I would take out the "up to." We'll see how that goes. I would like to complete it as soon as possible—in the first quarter, and I wouldn't mind the middle of the first quarter—but that's a minority view, I'm sure. I thought that President Plosser's suggestion on moving the inflation expectations ahead of resource slack was perfectly acceptable, if there was any appetite for that. Thanks, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you very much. President Pianalto.

MS. PIANALTO. Thank you, Mr. Chairman. I favor alternative B. It is good to see more data showing that the economy is on a path to recovery, but, as I noted earlier, the gains have been very limited, and the recovery remains quite fragile. My view about the direction of inflation is more balanced. Fortunately, inflation expectations have been a lot more stable than we might have anticipated even a few months ago, when we were concerned that inflation expectations would fall. I attribute this stability at least in part to our communications strategy. Given the minimal extent of the recovery so far and the very moderate levels of inflation, I believe the continuation of our current accommodative policy is appropriate.

Regarding the language in paragraph 3, I support inserting the word "wide" in the first sentence. I also think that we will be purchasing and should be purchasing the entire $1¼ trillion in mortgage-backed securities. In addition, I think it's important to be as transparent as we can be, so I would delete the "up to" in front of the $1¼ trillion of agency mortgage-backed securities. I would obviously leave the "up to" in front of the $200 billion in agency debt. Regarding the language on tapering our purchases, Brian Sacks's comments and analysis yesterday moved me to support using the "end of the first quarter" language in that section. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. First Vice President Lyon.

MR. LYON. Thank you, Mr. Chairman. I also favor alternative B. Although the recent data have generally surprised on the upside, I'm hesitant to place too much emphasis on one or two months' worth of data. We have been unpleasantly surprised several times in the last two years, and in part, as a result, I'm disinclined to change policy quite yet.

I think that market expectations are particularly important at times like these, and I place a fair amount of weight on the fact that alternative B is most closely aligned with existing market expectations. In this regard, while I prefer the retention of the "up to" language due to its consistency with prior statements, I would not object to the removal of this language.

The tapering strategy for the purchases of agency MBS and agency debt specified in alternative B strikes me as prudent and appropriate. I support ending these purchases in the first quarter of next year. Based on Brian's presentation yesterday, I don't see the need or the justification to extend them further.

Given that neither inflation nor inflation expectations have increased, worries about the size of our balance sheet seem to me to be premature. In my view, we have viable exit strategies available that we can implement as conditions warrant. Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Warsh.

MR. WARSH. Thank you, Mr. Chairman. I'll support alternative B with some suggestions, but I'll confine most of my remarks to the mortgage markets. Let me begin by talking about this odd market dynamic, which, I think, is leading to much of the discussion around the table. The mortgage market strikes me as neither particularly sustainable in its current form nor two-sided, in the sense of matching private parties who meet at some market clearing price. And the blame for that is not even predominantly because of the Federal Reserve's role in the market.

When I think about the mortgage market ecosystem, I break it into three parts. The mortgage origination market, even dominated by three or four banks with different degrees of implicit and explicit support, is by far and away the most competitive market in this ecosystem compared with what I'm going to talk about next. In between the originators and the holders of these portfolios, we have this odd duopoly of government guarantors that are now competing with a new entity, the Federal Housing Administration, all of whom have confused and overlapping objective functions and confused exit regimes. They can't say what they're solving for, whether it's minimizing draws from Treasury, maximizing the support of Congress, or minimizing or changing the number of folks that go into foreclosure; the guarantors are in between this bizarre group of mortgage originators and buyers. And who are the buyers? Well, the buyers are us, that is, the Federal Reserve, the Treasury Department, and Fannie and Freddie, who have mixed views about whether they're also going to be portfolio buyers of whole mortgages or mortgage-backed securities. Taking all this together, I think we shouldn't be surprised that we're having a hard time figuring out what the incremental change in spreads would be based on whether we do "up to" or not "up to" at various sizes.

All of these pieces are subject to debate. Markets are trying to figure out who's going to do what to whom and what the consequences of this bizarre ecosystem are, and noting that this market is not clearing in any effective way. I would say again that we have participated in but are not predominant in that rather unfavorable diagnosis.

In light of that dynamic and what's in the realm of the possible, we can talk about losses on our portfolio, and we can talk about complications for the exit strategy. But I think, as one of the prior speakers made clear, that, for the purposes of this discussion, we can stipulate that we can and will figure it out. I have great confidence in that.

It strikes me that the central question is: What can we do to provide whatever help is in the realm of the possible to this targeted mortgage market? I think it's likely that, given the uncertainties that we've all spoken about regarding the real economy and financial markets in 2010, we're going to have to provide support as best we can throughout much of the year. This isn't support such that we say, "Boy, once we're done with the first quarter, all will be rosy thereafter." As a way to frame what the operative choices are in front of us, I ask myself: What is most conducive to bringing private buyers back into this confused market in as seamless a way as possible? Now, we shouldn't be surprised that markets want more. Again, I said this with

Treasuries, and it's equally true here because we're doing more. They want more purchases, more certainty, more commitment, and I think that that is as expected. What should we want? I think we should be solving for bringing real investors back into this market to give it any chance of pricing mortgages at rates that are conducive to recovery. So I think that brings us to the operative questions mostly in paragraph 3.

With respect to the "up to" language, I learned from one of you that, in the academy, they say the debates are so angry because the stakes are so small. I think that's true on the "up to" language here. Markets expect we're going to do $1.25 trillion. If we leave "up to" in there, they're going to expect it, and if we take it out, they expect it, so I can't get all that energized over where to cast my vote in this very close call. Because they already expect we're going to do the whole thing and because we are reasonably comfortable with the progress from the last FOMC meeting to this one, I would have a mild preference for leaving "up to" in there, and I think that the differences in market practicality here are really quite small.

What about the timing? When should we end this or complete this exercise? I am generally in the category of flexibility, given these uncertainties, but taken to its extreme, I think the flexibility would give not only the Desk some concerns about what exactly they're solving for, but also the markets. Therefore, while I'm sympathetic to the idea of extending this out, in general I think if we want market investors to get back in and to prepare to get back in, we should tell them when we're planning on exiting this thing, because I think we're going to have cliff effects at any point that we complete these purchases. I suspect that we should give them as much notice as possible. My preference, as a result, would be to say that we are going to complete or execute this by the end of the second quarter of 2010, giving full warning to them and to all of us about how to proceed.

As a final comment, Mr. Chairman, on the agency debt, I think the staff has been incredibly up front with us that we're really making that market even harder to operate effectively. I think the benefits that we are drawing from continuing to be in that market are particularly limited, if not zero. So if I had the pen, I would actually end the increases in the agency debt side. I don't think that's the center of consensus around the table. So just to be practical, you can leave that as "up to" as well. Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Duke.

MS. DUKE. Thank you, Mr. Chairman. Everybody around this table has more experience with these issues than I do—

MR. TARULLO. No, that's not true. [Laughter]

MS. DUKE. —but I'm struck as I look at the statements and as I listen to the discussion that it sounds like we're doing one smooth maneuver that has been the same over a period of time when the underlying dynamics are really very different. I would agree with President Lacker that the purchases of the MBS and the support of the housing markets has been smooth, has acted as a substitute for the financial markets that haven't yet restarted. But, on the other hand, the waxing and waning of programs on the asset side of the balance sheet are going to result in bursts of quantitative easing in the form of reserves, and we're just beginning to see that. Given my impression that reserves are currently at desired levels, I think that it will result in some lowering of interest rates. I would disagree with Governor Kohn on that, and then disagree with President Lacker and agree with President Yellen that this is not necessarily a bad thing, that it's probably warranted by the conditions that we are facing. Also, I would point out that while the TALF is supporting lending, on the one hand, our regulatory policies are generally acting to restrict credit, on the other, so those two things are working at cross-purposes, perhaps.

With all of these different things going on, I have difficulty weighing the relative impact of each one on the final outcomes, but I do remain concerned that on balance we're going to see too little credit availability leading to too much saving and a slower recovery than we would like. So I do support alternative B. I think through tapering we actually are likely to learn a little bit more about the effects of stock versus flow, as well as about the bank response to this second big tranch of reserves coming in, so it certainly would be possible in the future to argue for an extension into the second quarter, but I'm not sure whether that would be through more gradual tapering or through an increase in the purchases. I think it just depends on how those develop.

In keeping with my banker roots, I do find paragraph 1 awfully rosy compared with the reservations that were expressed in the policy round, but I don't have any changes to offer.

I would delete the "up to" language, but, again, I'm not sure I'm terribly strongly in favor of that; I would probably also use the first quarter, again, saying that in the future I may prefer the second quarter. Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. I can support alternative B, although, like President Yellen, not without some reluctance. I have two difficulties with the language of alternative B as drafted. In paragraph 1, although I think it does reflect accurately our sense of the current trajectory of the economy, I don't think it captures the level of uncertainty about what may happen next year, and thus I would be substantially more comfortable with an explicit indication of that uncertainty.

With respect to paragraph 3, I think President Bullard captured the most important point from my point of view, which is that the world should understand that we're prepared to respond as required by economic circumstances. I worry that there is a sense of finality that is projected in the language as currently drafted, and I don't think it turns on the "up to" language for the reasons that Governor Warsh suggested. I think it turns more upon the way it's stated and, to be perfectly honest, upon a lot of external commentary which has begun to impute a certain finality to us. So whether through the mechanism that President Bullard suggested, or President Rosengren suggested, or some other means, I would be substantially more comfortable with alternative B if it states in more or less—and I say "more or less" given that we are a central bank—explicit fashion that we are prepared to respond to changing economic conditions, so that people do understand this is not final in the sense that, even if things begin to deteriorate next year, we're not going to think there's a high hurdle rate because, after all, we ended that program. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. I guess I would note that we are proposing to retain the last sentence; I realize that if you repeat a sentence too many times it begins to lose meaning.

MR. TARULLO. That is exactly my idea of it. People look at the deltas, I think.

CHAIRMAN BERNANKE. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Mr. Chairman. First, I just want to talk to some points that President Plosser raised about inflation expectations. I completely agree that inflation expectations matter. I think we have to be careful, though, that our concern about inflation expectations does not imply to others that we'll be forced to take back accommodation sooner. On the inflation expectations front, we can actually make considerable progress by explaining to people clearly why we can exit. I thought it was interesting that everyone here has stipulated that we can exit, but I don't think that the market believes that everybody on this Committee believes that we can exit. I think it would be helpful to the markets if we did explain that, and that would help keep inflation expectations more anchored. I also think that we could help keep inflation expectations better anchored by explaining that we think inflation will be subdued given the large output gap. We can actually accomplish both goals—explain our policy a little better and work at keeping inflation expectations anchored. So I think communication is something that we need to continue to work on. We've made quite a bit of progress this summer—your speech and testimony, Mr. Chairman, on the exit strategy helped. But I think the more people who are confident that we can manage our exit, the more helpful it will be on the inflation expectations front.

Yesterday I was hoping to talk about large-scale asset purchases. [Laughter] Now as next to the last speaker, I think I'm going to be very repetitive, but I do think it's important to commit to do the entire $1¼ trillion, and a lot of people already touched on the reasons. Governor Kohn talked about the fact that the trajectory of the unemployment rate is still unsatisfactory, and I completely agree. It's less unsatisfactory than it was before, but it's still very unsatisfactory, so taking back any sort of accommodation that is discretionary to us at this meeting seems inappropriate. In terms of the specific reasons that I was going to give yesterday, the first is that this is what's expected. If we don't do what the market expects in this case, it would lead to an inadvertent tightening of financial conditions, and not just directly in terms of the effects on agency MBS yields because of the potential lack of additional purchases, but also because it would be a new signal that we're closer to exit in a broader sense. Remember, if you compare where the market is in terms of the timing of raising the federal funds rate and where the Greenbook is, there's a pretty big gap. So, for the market to be surprised, we're going to have to move faster than the market expects. It seems to be a pretty strong presumption that we're probably going to go slower than the market expects.

Second, we are pretty far along in this program, so this idea of not completing it gets difficult if you also want to do tapering that lasts through the end of the first quarter. By the end of this week we will have purchased, what, $895 billion roughly? That leaves $355 billion, with twenty-seven weeks until the end of the first quarter. That means we've been purchasing at $25 billion a week, roughly, up to now. If we decided to do the whole amount, we're still cutting the rate of purchases roughly in half over the next six months. If you imagine that we cut the purchases to $20 billion a week between now and the next meeting, we'd only have about $235 billion left at the next meeting, and then we'd have to say: Well, do we really want to have the taper be so dramatic that we cannot actually do the whole program? I just think that we have to recognize that we're so far along in this program that it's extraordinarily likely that we're going to want to complete it. In that case, I don't really see the benefit of retaining this very small degree of optionality relative to the high probability that we're actually going to go through with this program.

Last, this is a new point, surprisingly, although Brian did raise it in his comments yesterday. When we did implement the tapering language for the Treasury purchase program,, we also committed to do the entire $300 billion at the same time. So there is a risk, and I don't know how big a risk it is—probably a slight risk—that if we don't take the "up to" language out, the market may note the difference: We committed to the entire amount when we did tapering with the Treasury purchase program, and in this case, we'd be committed to tapering but we'd keep the "up to" language in. I think that will create unnecessary ambiguity that will create some risk. So obviously I'm in favor of taking the "up to" language out. In terms of the other language, I have some sympathy with this idea of being a little bit more vague, but my problem with that is, how does the Desk then know what to do. I think there's a bit of a tension there. I don't think there's that big a problem bringing back the purchase programs. If the economy behaves in a really bad way, I think the market would probably expect it. I think if we say "by the end of the first quarter" that doesn't really rule out bringing it back if things go adversely.

On the question of "wide range," I agree with Governor Kohn. I think "all available tools" is the broadest phrase. "Wide" is less broad. "Range" is less broad than that. I think it makes sense for us to err on that intermediate step, and maybe we can go to "a range of tools" two or three meetings from now.

CHAIRMAN BERNANKE. Okay. Thank you. President Plosser.

MR. PLOSSER. Mr. Chairman, before you do your summary, I'd like to put something back on the table that really hasn't been addressed as much as I think it needs to be. I raised it yesterday, and President Lacker raised it today, and that's this issue of the SFP program and the importance it plays; in fact, it will be adding more stimulus to our balance sheet and more reserves to the economy. The Treasury has the authority to make this decision at the end of the day, and if this Committee is consciously choosing not to sterilize that and, therefore, increase stimulus, then we need to acknowledge that we are choosing to do that rather than accepting it passively. It's not clear whether the discussion about the increase in stimulus around this table and the options for providing it have been under the premise that the SFP is going to be there. As you suggested yesterday, when you alluded to this and talked about it briefly, it is important that this Committee make an active decision to accept that additional stimulus, if that's what the Committee so chooses, or to reject it and sterilize it. But I would not like that to be just sort of skipped over and accepted without a conscious discussion about how we think that fits into our broader strategy. That's my issue, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Well, let me try to summarize. First on the substance, we've all agreed that the intermeeting data were more favorable—that's a great relief, and I think to some extent it validates the approach we took back in March. If we had known in March where we'd be today, I think we would be reasonably relieved about it. So I think that's all encouraging. That being said, as I mentioned in my go-round comments on the outlook, the economy does remain quite weak, certainly quite far from meeting our maximum employment objective. And there are costs on the downside—and I'm not talking about an insurance argument here; I'm talking about the neutral-risk size of the costs. I think the downside risks are still dangerous, because on the downside lies the possibility of renewed financial crisis, and, of course, the marginal cost of higher unemployment—or less employment—is greater when you're starting from such an adverse position. So I don't think that scaling back stimulus significantly at this meeting is warranted.

Having said that, I see it as a nuanced situation. I think it's not right to say that we are going full bore and not in the process of exiting. We have both actively and passively allowed the rundown of substantial amounts of our liquidity programs, and my own assumption is that, as the early 2010 deadline comes around, we will, in fact, close many, if not most, of those programs. Second, we have ended the Treasury program. So I think it's clear—we've talked a good bit about exit—to the markets and the public that we are in a mode now of thinking about the exit and have taken some concrete steps in that direction.

A second point that's come up, which I think is an interesting one, is, to put it most bluntly, the question of whether completing the $1¼ billion of MBS purchases is a further easing or a staying in place. Because I've been focused on the asset side and on the effects on interest rates, I guess I would conclude that it's closer to staying in place than it is to a further easing.

First, mortgage rates have been fairly constant throughout this entire program, and I think that what we'll be seeing when we stop the program is probably some backup in mortgage rates, so that measure of ease has been constant over the period of the program. In fact, whether you believe in a stock effect or a flow effect, either one would suggest that, if you were to cut back your planned purchases, it would cause rates to rise, and it would be a tightening relative to expectations.

Now, the quantitative easing theory is a little bit more ambiguous. If we're putting more reserves into the system, then arguably that is a further easing. But I have two observations. One is that those effects may be small, and the other is, as Governor Duke mentioned, that it's uncertain to what extent the effects of that are anticipated in the markets already. So it's a complicated question. My own feeling is that if we were to adopt something like alternative C and actively cut back on our plan today, not only would it be tightening in the sense of pulling back on the asset-purchase program, but it also would send a very strong signal that we were very close to exit, and I still don't think we're there yet. So I do think that our options really are to continue with the program, and one of the key decisions that we have is exactly how to describe how we're going to go forward with the program at this point.

Now, there's the other side of the question that President Yellen and Governor Tarullo and others mentioned. If we're unsatisfied with the situation and we think the federal funds rate ought to be minus 4 percent, why aren't we doing even more? Here again, I don't think we should rule that out, but I feel some sympathy to what President Evans said, which is that, given all the uncertainties we have and the issues about our balance sheet and exit and our uncertainties about the effects of these programs, it's not obvious that we do have a lot of ammunition left even on this unconventional dimension. Having said that, I think we should obviously keep this possibility alive if the situation warrants it, but it's not clear to me at this point we should be doing more either. So I do support the language in alternative B, but there are a couple of decisions that we need to make.

To get to the most substantive one first, I'm not sure, Governor Tarullo, if I got your vote on the "up to" language, but, excluding your vote, I think I have five for keeping "up to," six for dropping it, and four who were split evenly between slightly favored one or the other. Did you have a preference?

MR. TARULLO. Yes. I think it depends for me, ultimately, Mr. Chairman, on what other language might change. Were you to tell me that no other language was going to change and I get to do "up to" or not, I would want it out.

CHAIRMAN BERNANKE. Okay. I'm happy to take another straw vote, but personally I lean slightly towards taking it out on the grounds of market certainty and on the argument that the Vice Chairman made, namely, that by November we will in any case be already up to $1 trillion, and we won't have a lot of flexibility to fall short. But frankly, I'm with President Lockhart—I think it's a pretty close call, and I don't think it necessarily is a first-order issue, but we do need to resolve it. So if it's okay, I think I'd like to take a straw vote of the full Committee including all participants. President Plosser, is that okay with you?

MR. PLOSSER. That's okay, but there are two elements to this.

CHAIRMAN BERNANKE. Okay.

MR. PLOSSER. One is the "up to" and the other is how long we extend it for. So I'm trying to figure out whether we want to treat those separately.

CHAIRMAN BERNANKE. All right.

MR. PLOSSER. For some of us that might be dependent.

CHAIRMAN BERNANKE. Okay. So I think if we keep "up to," again, and we taper, I think we ought to have an end date at a minimum. If we take away the end date, then there's just too much uncertainty involved. So let's talk for a moment about the end date. Brian, how strong is the preference of the Desk for the first quarter? What arguments can you make about first quarter versus what I think are the two other options we've heard: One is end of second quarter and the other is in the second quarter, the difference being, I guess, that the end of second quarter theoretically could encompass a much earlier decline.

MR. SACK. I think even using the end of first quarter provides a six-month tapering period, which is actually pretty long. The concerns I raised in the briefing were that a longer tapering period certainly will require a much steeper drop-off in the pace of purchases in the near term. As policymakers, the risk to be taken into consideration is whether that will actually prompt a quicker backup in mortgage rates.

My main point was that, from a market functioning perspective, I thought Q1 is a sufficient tapering period. So I wouldn't use market functioning as an argument for going all the way to Q2. I think that decision would have to be based instead on market effects and policy flexibility and things that fall in your domain, not mine.

CHAIRMAN BERNANKE. I have the following proposed compromise on that. President Yellen correctly made an interesting suggestion of replacing "completed" with "executed," and the reason that matters is that unlike Treasuries, MBS take weeks to clear, so if we execute by the end of the first quarter, that means the balance sheet effects will probably go into the second quarter. Is that going to be okay? All right, so let's take that as given, if we will, that we're going to execute these things by the end of the first quarter. Then conditional on that, can I have a straw vote on whether to keep "up to." Those in favor of keeping "up to," please raise your hand. I see one, two, three, four, five. Those in favor of dropping “up to”? One, two, three, four, five, six, seven, eight, nine, ten. The preference is to drop “up to.” That has the advantage of being parallel to the Treasury language and creating some more certainty.

That all being said, I think it’s always clear that we have flexibility. We have a last sentence here that says we’ll be reviewing the timing and purchase of securities, so I don’t think we have abandoned flexibility. I for one certainly would be open to adjusting the program if we do see significant changes in the outlook in the next few weeks.

Yes, President Lacker.

MR. LACKER. Taking out “up to” is a firm commitment to the program. If we were to see some problems in banking markets caused by the expansion of reserves, would we consider running off Treasuries, or selling Treasuries, in order to drain reserves? Is that an element of flexibility that remains on the table?

CHAIRMAN BERNANKE. Actually, that’s a good question, and I was going to respond to President Plosser’s point.

MR. LACKER. It’s related to this question as well.

CHAIRMAN BERNANKE. Yes. So I think there are a couple of things going on there. First, it’s my expectation that the SFP program will come back after the debt ceiling issue is resolved, although, of course, as I said, we shouldn’t count on that definitively. Second, these programs—the reverse repos, the term deposits, these tools that we want to have in place—I think we ought to put them into operation on some small scale early, that is, if possible, by the end of the year or early next year, just so that we can be assured that they work and the market can see that they work. So I would encourage staff to keep that goal in mind. I think that would give us certainly an additional way—and this actually corresponds to about the time that the SFP is going to run down around the end of the year—to fine-tune if reserves were becoming a concern; of course, we could always sell Treasuries.

MR. PLOSSER. Excuse me.

CHAIRMAN BERNANKE. Yes, President Plosser.

MR. PLOSSER. I'm just trying to make sure I understand. Does that mean that your view would be that, in the absence of the return of the SFP program, we would actually use these tools to offset, in effect, that increase in stimulus or increase in reserves that's happening? Is that what I'm hearing you say, or is it something different?

CHAIRMAN BERNANKE. What I'm saying is that, in any event, we ought to start these programs on a small scale to assure ourselves that they work. If the SFP program doesn't come back, then I agree that, as you said, we ought to actively decide about how much reserves we want in the system.

I think President Lacker raised the possibility that the high level of reserves was actually causing some kind of dysfunction or problem. I'll tell you my bias: $185 billion in reserves from a macro stimulus point of view is not that big a deal. It might be a bigger deal in terms of market function or banking function. In that case, there would be a good reason to explain to the markets why we're doing this operation without necessarily changing the overall intent or the thrust of our policy. So, yes, we then could use one of several methods if the Committee decided to offset some of that.

MR. PLOSSER. I guess I'm being difficult, but I'm worried about the perception of the marketplace, namely, that we are passively accepting an increase of $185 billion of reserves without an active decision by this Committee to do so. If we do anticipate that SFP comes back, in some ways that eases our exit strategies, and I understand why that may, in fact, be desirable.

But given the political interaction between debt ceilings and other things, do we want it to go away or do we want it to come back? Those are knotty, little questions about how then we manage these extra reserves in terms of this Committee's view of policy going forward.

CHAIRMAN BERNANKE. We'll have the tools to manage it. As for market expectations, because of our communication, for better or worse, I think expectations are mostly formed around the size of the purchase programs and not the size of the reserves in the banking system. Because there's no way to keep the purchase programs and reduce the reserves, we're effectively locked into that.

There were a couple of other things that I might as well ask about. There was the question of "wide range" versus not having "wide range," and I guess the argument is it's somewhat less jarring to go to a "wide range," but again, I don't think this is a first-order issue. Would anyone like to comment on that before I ask for a straw vote? President Lockhart.

MR. LOCKHART. I thought Vice Chairman Dudley laid it out well, and I hadn't thought of it so cleanly, but there are essentially three degrees of emphasis here. One is the old language, I gather, which would have been "all available tools," then "wide range" is sort of the middle ground, and "range" is the weakest. Is that the way you thought of it? So we're actually moving from "all available tools" to something else.

CHAIRMAN BERNANKE. Vice Chairman.

VICE CHAIRMAN DUDLEY. You raised it. I mean, is that how you thought of it?

MR. KOHN. Yes. I thought that backing away from "all available tools" would be seen as a consequential step in that the Committee, as the Chairman said, was at least putting the exit strategy into place, even though it wasn't executing it, so I guess I have a mild preference for including "wide."

CHAIRMAN BERNANKE. Okay. Any other comments on “wide”?

MR. LACKER. Well, there’s “narrow range,” and “wide” is in between “narrow” and— [laughter]

MR. PLOSSER. Or we could say “broad range,” which is in between—

CHAIRMAN BERNANKE. All right. [Laughter] I’m putting an end to this. Let me ask how many are in favor of putting in “wide.” One, two, three, four, five, six, seven, eight, nine, ten. Just for the record, how many are against it? One, two, three. Okay. So let’s include “wide.” I think those are the major decisions.

I will comment on the first paragraph. We had some views on both sides, that is, whether it was too cheery or not cheery enough, whether it was certain enough or uncertain enough. I’m at a little bit of a loss as to where to go with it. I felt the comments were pretty balanced around where we were, but if anyone else would like to address that. Would you like to address that, Governor Tarullo?

MR. TARULLO. Yes, but I don’t get the sense that anybody else has any appetite for it, so I don’t want to take people’s time up. After “Although economic activity is likely to remain weak for a time,” I would have inserted, “and there remains considerable uncertainty as to future economic performance, the Committee anticipates that…”

CHAIRMAN BERNANKE. Yes, I understand. I think the “likely to remain weak” probably conveys a lot of your uncertainty.

MR. TARULLO. It’s the same point, I think, that you made before, which is that there is language which has been in there for a while, but now we have cheered up the rest of the paragraph. Just as in paragraph 3, the language in the last sentence has been in there for a while, but we've firmed up the rest of the paragraph. That's why I was hoping for at least mildly offsetting phraseology changes.

CHAIRMAN BERNANKE. President Plosser.

MR. PLOSSER. I would just comment that we do have this phrase that household spending will be "constrained by ongoing job losses, sluggish income growth, lower housing wealth, and tight credit." So we have some caveats in there about weaknesses that are inherent in the economy already in this paragraph.

CHAIRMAN BERNANKE. If we wanted to fine-tune, one other suggestion—and I promise this is the last thing—in the sentence beginning "businesses are still cutting back," there is the part about "slower pace." We could go back to the August language, which says, "Businesses are still cutting back on fixed investment and staffing, but they are continuing to make progress in bringing inventory stocks into better alignment with sales." So it would be the same sentence as last time, and we would eliminate one element of cheeriness from the description. Is there any interest in that?

MR. TARULLO: Even I'm not interested in that.

CHAIRMAN BERNANKE. All right. I think we, I hope, have executed effective directive wording.

MR. MADIGAN. Mr. Chairman, I have some suggested wording for that.

CHAIRMAN BERNANKE. Okay.

MR. MADIGAN. But before we get to that, could I ask about paragraph 2?

CHAIRMAN BERNANKE. Sure.

MR. MADIGAN. Are we taking that as it is here or not?

CHAIRMAN BERNANKE. We could reverse the order. The way it's written, President Plosser, it's intended to say that these are both necessary conditions, that they're both part of the model. One version we had earlier started off by saying "longer-term inflation expectations are stable, and substantial resource slack is likely to continue dampening cost pressures. Therefore, the Committee. . . ." I don't think that's any better from your perspective.

MR. PLOSSER. No, for my purposes, I was trying to get some more conditionality into it.

CHAIRMAN BERNANKE. Yes.

MR. PLOSSER. The degree to which slack will damp pressures is conditional on these anchored expectations, and that's the message I was trying to instill by reversing the order.

CHAIRMAN BERNANKE. What we've done, of course, is added inflationary expectations to the description.

MR. PLOSSER. I acknowledged that was a step forward. I thought that was great.

CHAIRMAN BERNANKE. Anything else? All right, Brian, would you like to read the statement?

MR. MADIGAN. Mr. Chairman, perhaps I could refer everybody to page 3 of my briefing materials and make sure that everybody agrees on what's being changed. No change to paragraph 1. No change to paragraph 2. In paragraph 3: inclusion of the word "wide;" several lines down, deletion of the phrase "up to;" a few more lines down, substitution of the word "executed" for "completed" just before the bracket, and inclusion of the phrase "by the end of the first quarter." No other changes, I believe, to the statement.

MR. EVANS. Can I ask just one question?

CHAIRMAN BERNANKE. President Evans.

MR. EVANS. By using the word “execute” in the same sentence, we’re going to refer to “executed” for the MBS but “completed” for Treasuries. Any—

CHAIRMAN BERNANKE. I think the market people will figure out the difference, right?

VICE CHAIRMAN DUDLEY. Because it’s settlement issues.

CHAIRMAN BERNANKE. We’re using the language that’s technically correct. Brian, is that right? Do you have any problem with this?

MR. SACK. No, I don’t have a problem. I don’t think it’s a massive source of confusion if it says “completed,” but I have no problem with “executed” either.

CHAIRMAN BERNANKE. All right.

MR. MADIGAN. Mr. Chairman, on the directive.

CHAIRMAN BERNANKE. Yes.

MR. MADIGAN. I’m on page 8 of my handout, directive 4, alternative B. To reflect the use of the word “execute” in the statement, in the middle of the paragraph I’d suggest that we break the sentence beginning “the Desk is expected” into two sentences so that the first sentence would end at “after the end of October.” That is, “The Desk is expected to complete purchases of about $300 billion of longer-term Treasury securities by the end of October,” period. “It is also expected to execute purchases of up to $200 billion in housing-related agency debt and about $1.25 trillion of agency MBS by the end of the first quarter.” That applies “execute” to both debt and MBS, but I don’t think that’s a problem.

CHAIRMAN BERNANKE. Okay, and let me just remind everybody that we’re retaining “up to” for the agency debt. I think the sense of the Committee, Brian, is that we’ll continue to slow that down. We may well not want to go to the full amount of that category.

All right. Any other comments? Matt, can you call the roll?

MR. LUECKE. Yes. This vote will encompass alternative B with the changes described by Brian Madigan, as well as directive B, also with the changes described by Brian Madigan.

Chairman Bernanke	Yes
Vice Chairman Dudley	Yes
Governor Duke	Yes
President Evans	Yes
Governor Kohn	Yes
President Lacker	Yes
President Lockhart	Yes
Governor Tarullo	Yes
Governor Warsh	Yes
President Yellen	Yes

CHAIRMAN BERNANKE. Thank you very much. Matt, do you know if the lunch is ready at 12:30?

MR. LUECKE. The lunch is ready now.

CHAIRMAN BERNANKE. We will be heading up to lunch for our colleague Gary Stern. As I said yesterday, in December we'll have a presentation on inflation dynamics. Our next meeting is November 3 and 4. With nothing else, the meeting is adjourned.

END OF MEETING