

**Meeting of the Federal Open Market Committee on
April 28–29, 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, April 28, 2009, at 2:00 p.m., and continued on Wednesday April 29, 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, Plosser, and Stern, Presidents of the Federal Reserve Banks of Dallas, Philadelphia, and Minneapolis, respectively

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

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

Ms. Mosser, Temporary Manager, System Open Market Account

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

Mr. Frierson,¹ Deputy Secretary, Office of the Secretary, Board of Governors

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

¹ Attended Wednesday's session only.

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

Mr. Blanchard, Assistant to the Board, Office of Board Members, Board of Governors

Messrs. Levin, Nelson, Reifschneider, and Wascher, Associate Directors, Divisions of Monetary Affairs, Monetary Affairs, Research and Statistics, and Research and Statistics, respectively, Board of Governors

Mr. Meyer, Senior Adviser, Division of Monetary Affairs, Board of Governors

Mr. Carpenter, Deputy Associate Director, Division of Monetary Affairs, Board of Governors

Mr. Palumbo, Assistant Director, Division of Research and Statistics, Board of Governors

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

Ms. Judson and Mr. Nichols,² Economists, Divisions of Monetary Affairs and Research and Statistics, respectively, Board of Governors

Ms. Beattie, Assistant to the Secretary, Office of the Secretary, Board of Governors

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

Mr. Barron, First Vice President, Federal Reserve Bank of Atlanta

Messrs. Rosenblum and Sniderman, Executive Vice Presidents, Federal Reserve Banks of Dallas, and Cleveland, respectively

Mr. Hakkio, Ms. Mester, and Messrs. Rasche and Rolnick, Senior Vice Presidents, Federal Reserve Banks of Kansas City, Philadelphia, St. Louis, and Minneapolis, respectively

Messrs. Burke, Hornstein, and Olivei, Vice Presidents, Federal Reserve Banks of New York, Richmond, and Boston, respectively

Mr. Rich, Assistant Vice President, Federal Reserve Bank of New York

² Attended Tuesday's session only.

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CHAIRMAN BERNANKE. Good afternoon, everybody. This is a joint meeting of the FOMC and the Board, so I need a motion to close the Board meeting.

MR. KOHN. So move.

CHAIRMAN BERNANKE. Without objection. Thank you. Our first item of business is to get reports on Desk operations, liquidity programs, and balance sheet developments. Let me turn first to Trish Mosser. Trish.

MS. MOSSER.¹ Thank you, Mr. Chairman. Financial conditions have improved modestly in the last month and a half, reacting to aggressive policy actions in many countries, some improvement in the near-term outlook for the largest financial firms, and tentative signs that the free fall in global economic activity may be leveling off a bit. Equities are up, credit spreads are narrower, the dollar is weaker (that's probably a good sign in this environment), volatility is down, and liquidity in many markets has improved. Despite these modest improvements, financial markets and institutions, by any normal measure, are very stressed. In short, the calm in markets is very uneasy, and continued improvement will depend critically on upcoming policy initiatives—particularly the outcome of the capital assessment program (CAP)—and of course, on the evolution of the macroeconomy.

The May 4 release of the CAP results is a major risk event for financial markets, probably the largest since the passage of the TARP legislation last fall. Importantly, the risk surrounds not so much the disclosure of which large banks are likely to need additional capital in a stressed environment or even how much capital they might need. Those can be estimated. The important new information in the CAP release is the plan for how those capital holes will be filled, including what next steps banks will need to take, how and when government capital may be used, and what conditions will be imposed upon the banks. Lack of clarity about standards and future actions is likely to lead to even greater uncertainty about the future viability of large banks, and it increases significantly the risk of bank runs—in either wholesale or retail markets.

As exhibit 1 shows, credit default swap spreads have narrowed in recent weeks, as macro news has been less dire and equity markets have rallied. High-yield spreads have fallen more than 500 basis points since early March, and notably cash bond spreads of both investment-grade and high-yield corporates have fallen even more than CDS spreads, signaling some improvement in corporate bond market liquidity. Credit spreads of financial firms have also narrowed—by more than 100 basis points

¹ The materials used by Ms. Mosser are appended to this transcript (appendix 1).

since early March—but much of the narrowing has occurred outside the U.S. banking sector. Concern about the nature of government intervention in the banking industry has prevented a significant narrowing in spreads, despite stronger equity prices. A comparison of exhibits 2 and 3 makes this clear. Despite rising stock prices and declining volatility, most U.S. bank CDS spreads have widened in the last month and a half. In contrast, European banks, whose equity price performance is similar to that of U.S. banks, have had a narrowing of CDS spreads.

Setting the CAP and the political environment aside for the moment, exhibit 4 shows that banks' first-quarter performance surprised to the upside, with most large global banks beating the Q1 earnings expectations, in some cases by wide margins. That said, however, the quality and the sustainability of these earnings have been questioned, and the uncertainty about banks' ability to absorb future losses—particularly related to consumers, leveraged loans, and commercial real estate—remains high. As you can see in the last column, regulatory capital ratios for most large U.S. banks exceed requirements, but their ratios of common equity to capital (in the third column) remain quite low. Tangible common equity relative to assets has become the de facto measure of bank health for most market participants, for a couple of reasons. First, losses have to be covered by revenue and common equity, and given market uncertainty about the future size of bank losses, more common equity is viewed as a sign of health regardless of other types of capital. Second, the public policy focus on potential needs for additional common equity (directly or through convertible preferred equity) has increased the market's focus on that measure. It is particularly interesting to note that European banks, in the bottom half of the table, have significantly lower tangible common equity ratios (and regulatory ratios) than U.S. firms. Moreover, most analysts believe that European banks are not as far along in writing down their assets as their U.S. counterparts, and they have proportionally more recession-related losses ahead of them. Nonetheless, European bank equity performance has been about the same as that for U.S. banks; and as I noted earlier, European bank credit spreads have narrowed, whereas those of U.S. banks have widened.

Another measure of the near-term uncertainty regarding U.S. banks can be seen in the term structure of bank CDS spreads in exhibit 5. Normally CDS term structures slope up slightly. However, currently banks' CDS spreads are inverted, suggesting that if banks can survive the next two years, then the probability that senior debt holders will face losses is significantly diminished.

Despite the hand-wringing over the near-term future of the banks, liquidity conditions in many markets have improved. In particular, some of the unexploited profit opportunities that we have noted in the past are now actually being exploited. For example, in exhibit 6, the spread between three-month funding in the foreign exchange swap market relative to LIBOR has narrowed to pre-crisis levels. This reflects better liquidity and trading conditions as well as a willingness of banks and others to take some additional risk onto their balance sheets. Similarly, exhibit 7 shows a decline in the average absolute difference between actual and modeled

Treasury yields, reflecting an increased willingness by market participants—banks, dealers, hedge funds, and so forth—to commit balance sheets and to arbitrage away the price differences in the Treasury market.

At the bottom of the page, exhibit 8 shows jumbo and conforming 30-year mortgage rates. Not only have both mortgage rates come down, but the spread between them (in orange) has actually narrowed since the last FOMC meeting. You might well be surprised at this. After all, the secondary market for securitizing jumbo mortgages remains closed, and the Fed purchase program is focused solely on conforming mortgages. So one might expect that, whatever effect the Fed's program has had in lowering conforming rates, this progress could well be to the detriment of the jumbo market. But that is not what has happened. Jumbo rates appear to have fallen about 50 basis points in response to the decline in Treasury yields after the March FOMC meeting and notably have remained at those levels since then.

I have already highlighted one market response to our Treasury purchase program; let me turn there next. As you can see in exhibit 9, the FOMC's program to purchase \$300 billion in long-term Treasuries by September had an immediate announcement impact on long-term Treasury yields. But since then, long yields have drifted higher and are now just 10 to 15 basis points below the pre-March FOMC levels. Of course, it's hard to know the counterfactual here. Given the large quantity of new Treasury issuance and less dismal macro news, Treasury yields might be well above their mid-March levels in the absence of Fed purchases. We are more encouraged by the effect of the purchase program on volatility and liquidity. Exhibit 10 shows that implied volatility in both Treasury and swaps markets fell sharply on the announcement and have remained low. Actual volatility has fallen as well. Market participants tell us that, although our purchases may not prevent long-term Treasury yields from rising, they expect that such increases will be more orderly because of our regular presence in the market. Market participants are already discussing (and pricing) what may happen when the Treasury purchase program ends. At present, most expect that the Treasury purchase program will be expanded and extended beyond September. However, the risk that the program may expire in September is reflected in options prices. Implied volatility over the next six months has fallen, but volatility over the subsequent six months has been rising in recent weeks. The Desk is focusing its purchases in the 2-to-10-year segment of the Treasury curve, consistent with the FOMC's directive to help improve conditions in private credit markets. As you can see from exhibit 11, we are making smaller purchases outside this target range—to the disappointment of some market participants—but will continue to concentrate most of the \$300 billion in purchases between two and ten years. Somewhat to our surprise, we are purchasing a sizable amount of on-the-run Treasuries. Because of the very large amount of new Treasury supply and the continued pressure on dealers to keep their balance sheets small, on-the-runs are being offered to us in large sizes and at quite competitive prices relative to the market. One last note about the Treasury market: This Friday a new market standard of charging for failures to deliver in the Treasury market will go into effect. While we wholeheartedly believe that this will improve Treasury market liquidity

when interest rates are low by reducing the incentives to deliberately fail, there may be some anomalous Treasury movements in upcoming weeks as market participants adjust to the new standard.

Turning to the mortgage-backed-securities purchase program, exhibit 12 shows the daily pattern of our agency MBS purchases, including the step-up in average size after the March FOMC meeting. Our purchases have been a little smoother in recent weeks largely because volatility is lower. Early on we bought more on days when MBS prices were low and less on days when prices were high. As volatility has declined, there are fewer of those days. In addition, because volatility is lower, originators are selling more forward and at a steady pace, which is reflected in our purchases. We are purchasing TBAs (the forward MBS) at about \$135 billion per month, although we anticipate that delivery will be lumpy and that June deliveries of MBS, in particular, may be very large. Exhibit 13 shows a limited announcement effect on agency MBS and mortgage rates after the March FOMC. Since then, however, primary rates have drifted lower, and secondary MBS yields have been stable, despite the rise in Treasury yields. Given the size of our MBS purchase program, we are not surprised at our ability to influence secondary-market MBS yields, but we have a more limited ability to influence primary mortgage rates. The good news is that the primary–secondary mortgage spread has not widened with the recent large refinancing wave (unlike earlier this year), but overall the spread remains quite wide by historical standards. The spread is affected by a number of other factors, including fees charged by the GSEs; the costs of hedging mortgage inventories, servicing spreads, and valuations; and the pricing power and capacity constraints of the originators. Unfortunately, our purchases can help to influence only some of these factors—specifically, hedging and pipeline costs—and the Administration’s housing program can help to lower GSE costs and servicer costs, but the other factors (in particular, pricing power and capacity constraints) may, in the future, work to push spreads higher. Exhibit 14 makes clear why our ability to influence MBS yields is larger than our ability to move Treasury yields. Our MBS purchase program—both to date and as planned through the end of 2009—represents a sizable portion of expected new MBS supply this year. In contrast, our announced Treasury purchases amount to less than a third of expected issuance over the life of the program.

Although the TALF subscription in April was even smaller than we had anticipated, we are somewhat encouraged by the price response and the fact that non-TALF securitizations have come to market as well. Exhibit 15 shows that secondary-market spreads on triple-A-rated ABS continued to narrow after both TALF subscriptions. Moreover, the yields on new securitizations have been at least 100 basis points tighter (and in some cases, as much as 700 basis points tighter) than the spreads in exhibit 15. Much of this drop in yield is due to better liquidity conditions and the fact that TALF subscriptions have provided the market with some price transparency for the first time in months. As shown in exhibit 16, better liquidity and pricing have encouraged non-TALF securitizations as well—particularly in auto loans and credit cards, where activity had effectively ground to a halt last fall.

As in our purchase programs, one measure of success for the TALF is whether other market participants follow us in. If the TALF, even in small sizes, can provide some price discovery and a bit of liquidity to the ABS market, it could be a catalyst for improving credit conditions. In short, the economics of the TALF work. But the program continues to be dogged by the slow take-up by borrowers, particularly by political baggage, including repeated contradictory statements by various public officials regarding the TARP-related “rules of the road” for borrowers on issues such as executive compensation. The outlook for the upcoming May 5 subscription is for six to eight consumer securitizations for an estimated \$7 billion to \$9 billion. On the supply side, as many as 14 TALF-eligible deals could come to the May subscription and 12 additional deals in June; but given the uncertainties on the demand side of the market, we are hesitant to predict a sizable subscription at this point.

The liquidity facilities—the TAF, the swaps, the commercial paper and money fund facilities, the TSLF, the PDCF, and the PCF—continue to shrink as conditions in money markets have improved. LIBOR, foreign-exchange swap, and financial CP spreads are all narrower since the March FOMC meeting. Some of this is due to reduced demand for funding as financial firms delever and term out their debt, particularly through the FDIC guarantee program. However, market participants do report some increase in the availability of term funding. Although most of the programs are slowly winding down, the CPFF—shown in exhibit 17—is lumpy. This week about \$150 billion in CPFF paper is maturing. Since yesterday, \$85 billion of this paper has matured, but less than half of that—about \$40 billion—has been reissued to the facility. If this trend continues for the week, CPFF outstandings could fall below \$175 billion.

Exhibit 18 summarizes the overall trends in the balance sheet, most notably the step-up in purchase programs and the continued shrinking of liquidity programs. The balance sheet grew more than 8 percent in March and 5½ percent in April (at monthly rates). This has been accompanied by similarly impressive growth rates in the monetary base. The lumpiness of several of the programs—CPFF and MBS purchases, in particular—makes it unlikely that we will achieve steady growth of the balance sheet from week to week or even month to month; however, the balance sheet and the monetary base will almost certainly continue to expand at a rapid pace in the near term. Our outright purchases are now on the order of \$200 billion per month—a much faster pace than we anticipate (or almost anyone does) for the rolloff of the liquidity programs even if market conditions continue to improve. So we expect robust balance sheet growth—on the order of 6 percent per month—in the near-term.

Seth and Chris will be discussing long-term balance sheet trends in a few minutes. As a prelude to that, our latest primary dealer survey suggests that few expect changes to our purchase programs at this meeting but many place higher odds on program expansion as the year proceeds. Dealer economists expect that by mid-2010 the Fed will have purchased more than \$1.3 trillion in MBS, \$500 billion in Treasuries, and over \$200 billion in agency debt. In other words, nearly everyone expects significant expansion of the Treasury purchase program, and some expect

expansions of the agency and MBS programs. Longer term, the expected path for the fed funds rate, shown in exhibit 19, actually moved up somewhat. On average, dealers now expect the fed funds rate to rise to about 1 percent by the end of 2011.

The continued rapid expansion of the balance sheet as well as the shift in composition away from near-term liquidity facilities and to long-term lending and purchases naturally raises a number of questions regarding how the Desk is going to conduct monetary policy in the future when the FOMC would like to target a higher policy rate. Although the Committee may feel that that particular policy decision is well down the road, the staff has already begun work on how the Desk could achieve a significantly higher policy rate with a balance sheet that is very large and composed mainly of long-duration securities and loans. We are preparing an extended briefing and discussion of this issue for the June meeting. To preview some of the tools and instruments that we are considering: First, if we are granted legislative authority to issue central bank bills, how could that authority best be used? Second, how might our current legal authority to pay interest on excess reserves be used to allow better control of the policy rate—for example, through the use of a redeposit facility? There are a number of legal and operational complexities to work through on this topic. Third, to what extent can we sterilize excess reserves by lending out our portfolio of securities via the repo markets and the MBS dollar roll market? Given the very large size of our holdings, it is unlikely that we could feasibly lend out the entire portfolio, but even lending out a portion of our Treasuries, agencies, and MBS might be helpful in targeting a higher policy rate. Fourth, how feasible will it be for the Desk to sell securities in order to shrink the portfolio, including the potential impact on interest rates, financial market liquidity, and the Fed's income? We doubt that there is a single magic bullet in this list, but we will continue to work through the legal, operational, and accounting—not to mention policy—issues and will report back to you at the June meeting.

Finally, I would like to request a vote to renew our long-standing bilateral swap lines of \$2 billion with the Bank of Canada and \$3 billion with the Banco de México. The Committee received a memo from Nathan and me recommending the annual renewal of the lines now, although we are well aware that our recent experience with liquidity swaps warrants a wholesale rethinking of these facilities. We will do that, and we plan to come back to the Committee in the not-too-distant future with a more thoughtful discussion of the role of swap facilities across central banks. In the meantime, we recommend the renewal of these smaller lines. I also request a vote ratifying domestic operations since the last meeting. Seth will now continue the presentation.

MR. CARPENTER.² Thanks, Trish. Mr. Chairman. For this meeting, the Bluebook included a new section that presented projections for the Fed's balance sheet, and I'll be referring to the exhibits in the handout entitled "Material for FOMC Briefing on Projections of the Balance Sheet and Monetary Base." The projections

² The materials used by Messrs. Carpenter and Burke are appended to this transcript (appendix 2).

that we put into the Bluebook were linked directly to the policy alternatives presented in the Bluebook. Chris and I will briefly explain the assumptions that underlie those projections, caveats associated with the exercises, and the projections themselves.

Under the current policy approach, the scale of asset purchases and demand for Federal Reserve liquidity and credit facilities, given their terms and conditions and the evolving financial and economic conditions, will drive the size and composition of the Federal Reserve's assets and the quantity of liabilities. The composition of those liabilities will be determined primarily by the evolution of currency demand and other factors on the liability side of the balance sheet, with reserve balances determined largely as a residual. The balance sheet projections are "bottom up" forecasts based on assumptions about the various components of the balance sheet. We should emphasize at the outset that all of our assumptions, and therefore the resulting projections, are subject to significant error. The significant uncertainty surrounding the outlook for the economy, the uncertain response of users of Federal Reserve credit to the state of financial markets and the economy, and the fact that some elements of the balance sheet are policy choices make these projections more judgmental than typical forecasts.

The charts in exhibit 1 illustrate the assumptions that the staff has made. As suggested in the top set of graphs, we assume that the Board extends at least some of the section 13(3) lending facilities beyond their current expiration dates later this year and that the FOMC extends the horizon for the foreign central bank liquidity swaps. The recent improvements in functioning in some markets, however, have led to decreased usage of several facilities, as Trish noted. For example, draws on the foreign central bank swap lines and borrowing from the TAF have fallen so far this year. Consistent with this development, we assume that demand for credit from all of the facilities, with the exception of the TALF, falls to zero over the next couple of years as markets recover. The assets held by Maiden Lane, Maiden Lane II, and Maiden Lane III are assumed to mature or eventually be sold over time; they reach zero in 2015. In light of the slow initial uptake of the TALF, under the baseline projection the facility is assumed to peak at \$500 billion at the end of 2010, half of the announced \$1 trillion limit. For the baseline, we also assume that all TALF loans have a three-year maturity and that none defaults.

As shown in the next set of graphs labeled "Securities," in the baseline scenario (denoted by the blue lines) the Desk purchases \$300 billion of Treasury securities, \$200 billion of agency debt, and \$1¼ trillion of agency mortgage-backed securities this year as directed by the FOMC in March. We assume that the agency debt and Treasury securities are held to maturity. MBS are held to maturity as well but are subject to prepayment. Given the historically low coupon on the securities that the Desk has purchased, we assume a slower-than-average path for the prepayment of MBS that implies that approximately half of the MBS purchases remain on the balance sheet in 2016. Of course, the Committee may consider other possible courses for policy. Consistent with alternative A in the Bluebook, one alternative scenario is based on an additional \$450 billion in purchases of Treasury debt (the red line in the

graph). Another scenario includes the additional Treasury securities as well as a TALF that reaches \$1 trillion, with a second wave of loans that have a five-year maturity, shown by the red lines in the middle row of the top set of charts.

On the liability side of the balance sheet, we assume that Federal Reserve notes, shown in the bottom set of charts, expand at the same rate as money stock currency as projected by the staff under the Greenbook forecast through 2010 and at the rate of nominal GDP growth thereafter. The Treasury's accounts at the Federal Reserve return to historically normal levels from their current total of roughly \$300 billion; specifically, the supplementary financing account falls to zero, and the general account returns to the \$5 billion target by the end of 2009. Taken together, these assumptions plus additional assumptions for miscellaneous assets and liabilities imply a path for reserve balances. Chris will now discuss the projections.

MR. BURKE. Thank you, Seth. Mr. Chairman. I will now review the baseline balance sheet projections, which are shown in exhibit 2. As Seth noted, assets determine the size of the Federal Reserve's balance sheet over the next several years. If credit extended under 13(3) programs and through the liquidity swaps evolves as assumed, the long-term asset purchases and TALF loans will be the dominant factors driving balance sheet growth. The baseline projection sees these programs expanding rapidly over the remainder of this year, and consequently, total assets surge and eventually peak at \$3.4 trillion at year-end, an increase of about \$1.2 trillion from current levels. At that point, agency debt and agency MBS make up over 40 percent of total assets, whereas Treasury securities represent less than a quarter of total assets, much less than the roughly 90 percent share that Treasury debt represented in 2007. The increase in TALF loans also contributes to the very rapid expansion of the balance sheet in 2009. Subsequently, however, with asset purchases having ceased and TALF loans no longer being extended, the maturation and the prepayment of assets cause a gradual contraction in assets until the end of 2015. At that point, the Desk resumes open market operations to maintain reserve balances around the \$25 billion level.

Because balance sheets balance, total liabilities increase along with assets this year. Given our assumptions for steady and moderate currency growth, the level of reserve balances largely parallels the path of assets, although the substantial reserve-adding decline in Treasury account balances at the Fed further increases reserve balances this year. In the baseline scenario, reserve balances peak at \$2.4 trillion at the end of this year. Thereafter, reserve balances decline, following the contraction in assets, and approach zero in 2015. Because some positive level of balances is needed for the implementation of policy, as noted above, we assume that the Desk resumes its historical practice of open market operations to offset drains of reserve balances caused by currency growth and maturing assets.

We calculate the monetary base as the sum of currency and reserve balances. As presented in exhibit 3, in the baseline scenario the monetary base grows rapidly in 2009 and into 2010. After the first quarter of 2010, however, the monetary base

begins to contract as the liquidity facilities are winding down, new asset purchases cease, and previously purchased assets begin to mature. The base continues to contract until 2015, at which point the expansion of currency and the stabilization of reserve balances lead to a resumption of growth.

If economic conditions worsen or the Committee judges that greater stimulus is warranted, an even greater expansion of the balance sheet would result. A more aggressive path for asset purchases, like alternative A in the Bluebook, assumes an additional \$450 billion in purchases of Treasury debt in 2009. An even greater escalation—along the lines of that assumed in the Desk memo of April 24, 2009, to the Committee—assumes the same \$450 billion in new Treasury debt purchases and also assumes that TALF loans reach the \$1 trillion limit. Moreover, for illustrative purposes, the second wave of TALF loans is assumed to have a five-year maturity. The resulting path for the Federal Reserve's assets is shown in exhibits 4 and 5. Under these alternative scenarios, assets peak at \$3.7 trillion and \$4.2 trillion, respectively. Similar to the baseline, after asset purchases stop and TALF loans reach their limit, assets begin to decline. Under both alternative scenarios, the balance sheet shrinks to the same size as in the baseline scenario in 2015. Given the greater amount of assets, reserve balances are also larger in these two expansion scenarios. They peak at the end of this year at \$2.9 trillion and \$3.2 trillion, respectively, but decline in a manner similar to the baseline until the end of 2015. As was shown in exhibit 3, the growth in the monetary base is qualitatively similar to that in the baseline.

Under the Greenbook projection, the Committee is assumed to begin raising the federal funds rate in 2013. At that point in the baseline, there is more than \$400 billion in reserve balances, and balances are even higher under the two expansion scenarios. Thus, these projections implicitly assume that alternative tools and operating procedures can be put in place to achieve the path for the federal funds rate consistent with the goals of monetary policy even with elevated reserve balances. As Trish noted, these issues are under study by the staff and will be discussed at the next meeting.

MR. NELSON. Thank you, Chris. Mr. Chairman. As indicated in the memo circulated to the FOMC on Friday, we are recommending that the Board expand the list of TALF-eligible collateral to include commercial-mortgage-backed securities and insurance premium finance ABS. We are also recommending that the New York Fed offer five-year maturities on loans collateralized by CMBS and certain other long-lived assets. The TALF documentation has from the outset signaled a likely expansion to CMBS. We are currently proposing that the TALF accept newly issued CMBS. We expect to have a proposal for legacy CMBS in a week or two. Today, we propose accepting newly issued, fixed-rate, triple-A-rated CMBS that are not subordinated to any other bonds in a given CMBS pool. The loans in the pool must all be on income-generating properties.

We anticipate that the TALF-eligible CMBS will be used to refinance maturing loans that had been conservatively underwritten (and therefore retain significant

positive equity) and to purchase distressed properties—those in or at risk of default. Providing liquidity for refinancing would help prevent an increase in defaults on economically viable commercial properties, prevent further stress on current holders of the maturing mortgages, and free up their balance sheets for additional lending. Providing liquidity to finance the purchase of distressed properties will help facilitate the price discovery process and reduce the high levels of uncertainty about property values.

When evaluating the appropriate haircuts, we tried to take account of credit losses, the likelihood that the TALF loans would not be repaid, and mark-to-market losses. We propose haircuts of 15 percent for CMBS with an expected life of 5 years or less, rising to 20 percent for CMBS with an expected life of 10 years. The haircuts would then be boosted by a projected 6 to 8 percentage points on average by the diversion of interest carry to repay the loan, which I will discuss in a minute. In addition, in contrast to our procedure for TALF 1.0 assets, we will have a collateral gatekeeper that will review the deals and exclude those that appear unacceptable.

In the current economic environment, loss predictions are especially uncertain, but we did our best. Using these haircuts, we anticipate that in a stress scenario, defined as a 1-in-10 event, about 10 percent of the loans would default and that the collateral at the time of default would be about 20 percent below the loan values. Thus, for the entire portfolio of CMBS loans, we project losses in a stress scenario of 2 percent. At the same time, we would be charging the five-year swap rate plus 100 basis points on the loans. The excess spread on the loans accumulates as a first loss position. Over the life of the five-year loans, that buffer will amount to about 5 percent of the loan portfolio. Because the accumulated excess spread is more than double the expected losses, we expect that, even in a stress scenario, neither the Treasury, which is in the second loss position, nor the Federal Reserve, which is in the third loss position, would experience losses on the TALF loans backed by new-issue CMBS.

We anticipate that the New York Fed will accept a different set of NRSROs for CMBS. Currently, we take Moody's, S&P, and Fitch ratings on the collateral accepted for all Federal Reserve lending. A Systemwide project is under way to develop procedures for evaluating rating agencies for each collateral type, but the full project will take many months to conduct. We accelerated the review of NRSROs for CMBS. The results are not quite complete, but we anticipate that the list of recommended NRSROs for CMBS will differ from the list we have used in other lending programs.

The other asset class we propose adding to the program is insurance premium finance ABS. Insurance premium finance ABS are backed by loans to small businesses to pay for property and casualty insurance. Unlike households, businesses pay for such insurance upfront. More than 1½ million of these loans are extended to small businesses each year. When we asked market participants what remaining ABS categories we should have accepted under TALF 1.0, we were unanimously told

“insurance premium finance ABS.” The ABS bear very little credit risk because the underlying loans are collateralized by the residual unused insurance premium. Nonetheless, spreads on these ABS have ballooned along with other ABS spreads. We spoke to the four largest premium finance companies. Three of them are enthusiastic about the possibility that these ABS might be TALF-eligible. One of those three is AIG Credit, a subsidiary of AIG. The unenthusiastic company is BB&T, which is benefiting from its funding advantage as a bank.

We are also proposing that the TALF begin to offer 5-year loans. All TALF loans currently have 3-year maturities. CMBS generally have 10-year terms. Market participants were uniformly of the view that the TALF would not be very helpful for CMBS unless the loan maturity is lengthened. The maturity mismatch is also a significant negative for student loan ABS and SBA ABS, which have even longer maturities than CMBS. We propose offering TALF loans with 5-year maturities for CMBS, student loan ABS, and SBA ABS. We would also propose that 5-year loans be offered for newly issued RMBS and legacy CMBS and RMBS if these assets are eventually added as eligible collateral. A 5-year loan term reduces the maturity mismatch and extends the refinancing problem well beyond the expected end of the recession.

In order to reduce the risk that this program might impede your ability to raise the funds rate above zero when the time comes, we would limit the total amount of TALF loans with 5-year maturities to \$100 billion. For now, we propose extending 5-year loans to all who request them and otherwise qualify, but we would develop and put in place an auction mechanism in the future if it appears to be necessary. As an incentive to encourage investors to choose a 3-year loan or to repay a 5-year loan early, we propose diverting some of the interest payments on the collateral backing 5-year loans toward accelerated repayment of the TALF loan, with a significantly greater amount diverted in the fourth and fifth year. We expect that this early repayment will equal about 8 percent of outstanding CMBS loans, resulting in the extra haircut I mentioned earlier.

If the proposed changes to the program are adopted, we anticipate that about \$30 billion in TALF loans collateralized by newly issued CMBS and about \$2 billion in loans backed by insurance premium finance ABS will be extended by December 31 of this year, when the program is scheduled to end. If the changes are adopted, we anticipate making a public announcement this Friday.

CHAIRMAN BERNANKE. Thank you. We will have an opportunity shortly to have a general discussion of these issues, but for right now let’s just take any questions that might be for the staff. President Rosengren.

MR. ROSENGREN. I have a question on the mortgage-backed-security purchase program, in particular looking at figure 13 and figure 14. Figure 13 shows that the mortgage rates have come down as you discussed, and what's striking to me is that it looks as though we accounted for roughly 80 percent of the issuance of mortgage-backed securities over the first four months of the year. If we had been willing to buy 100 percent of the issuance, I assume that we would have been a price setter in that market and we would have had the ability to push rates even further down. So my question is, (A) Is that accurate, and (B) if our guidance to the Desk was to try to get the retail rate between 4 and 4¼ percent, do you think we would be able to do that for the new issuance? As you've highlighted, we account for most of the coupon purchases between 4 and 5 percent. So if, instead, we had instructions that we're really intending to try to get that rate down, would you be able to hit it?

MS. MOSSER. Probably, but at a cost. Right now, even though we are buying a significant proportion of the new issuance, there are others who are buying new issuance as well—fixed-income money managers and a few banks and so forth. In addition to that, there is a fair amount of trading activity in what I will call “off-the-run TBAs”—the higher-coupon TBAs—as well as in the forward market, both for hedging purposes and for speculation purposes. If we followed that strategy, we would effectively wipe everybody else out of the market. There wouldn't be any secondary trading. We would be the only purchaser, and we could probably continue to drive down at least the secondary spreads.

MR. ROSENGREN. What does “wipe out” mean? Does “wipe out” mean that they leave the market temporarily and come back in once rates go back up, (if they go back up)? It's not a wipe-out financially; it is just that they are not active in the market.

MS. MOSSER. In the short run, they probably take some capital gains, in point of fact. The big question is when they would come back and how quickly. The experience of central banks completely taking over markets to the point that the market is effectively shut except for what the central bank is buying is not so pretty from a liquidity standpoint. For example, in Japan it took a year and a half to get their money market to work again in any kind of normal way, and that was a money market, not a relatively complex product like MBS.

I think the big question is, if we completely dominate the trading in this market, we can probably set whatever price we want, but if there are no other buyers that will complicate things for the originators in the following sense. Originators will have to be very certain about how much we're going to buy, the price, and the point at which we're going to exit. As long as they're very certain about the price and we buy absolutely everything, they'll have no problem originating at low rates. But the minute there's any hint that we're not going to buy every last dollar, there's uncertainty about what they can sell to someone else. At that point it's going to be much harder for them to hedge their pipeline, and the spread between the secondary rate and the primary rate may be wider. So I think there's a concern that perhaps the spread could widen out despite our best efforts to drag the secondary rate down. The short story is that there is a bit of a tradeoff between how low we can push the secondary-market rate and how much we want to preserve some liquidity in the market so that we have an exit strategy.

CHAIRMAN BERNANKE. Could I just follow up on that? Looking at it from the other side, we're focused mostly on new issues. Is that right?

MS. MOSSER. About 85 percent of the TBAs that we buy are between 4 and 5 percent coupons, which is nearly all of the new issuance. So, yes, we're very focused on the new issuance.

CHAIRMAN BERNANKE. Why are we doing that instead of mixing new issues and seasoned mortgages?

MS. MOSSER. We are buying some seasoned. I don't know if I have a maturity breakdown in this chart pack, but there is one, I believe, in the balance sheet briefing that we sent around. About 10 percent is off the run. With the two refinancing waves, that part of the market is actually shrinking. Our purchases of high-coupon MBS may not be so big as a share of outstandings, but our market share keeps rising every day because those are exactly the loans that are being prepaid into 4s, 4½s, and 5s. So by the end of this refi process, a huge proportion of the market is going to be concentrated between 4 and 5½ percent—perhaps not 80 percent but we would guess 60 to 70 percent of the market—at which point our numbers will not look so out of line. We're just a little ahead of the curve.

MR. ROSENGREN. Just to follow up one more time. If we had given instructions that our goal was to try to get the retail rate between 4 and 4¼ percent, which is what some of the projections had indicated we might get to, how much more do you think you would have had to purchase to achieve that goal? And would it have had the undesirable effects that you were talking about?

MS. MOSSER. If we had started out purchasing absolutely everything, the answer is that it would have had the undesirable effects. We could have gotten the rate down. I don't know if I could quantify buying absolutely everything. It's probably not, shall we say, a nice, linear relationship between how much we buy and how far we could have gotten the rate down. I'm guessing that, if we really wanted to get the rate down another 100 basis points, which is what you're talking about here—50 to 100 basis points on the retail mortgage rate—we would have

had to buy all the new issuance and quite a substantial amount of the outstanding 5s as well. So we would have had to buy at least 40 to 50 percent more than we did.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. And this is independent of what happens in the Treasury market?

MS. MOSSER. The narrower we make the secondary spread to Treasuries, the more everybody else is going to exit the market because nobody else has our funding advantage, shall we say, or our ability to just magically create the dollars to purchase these assets. If the Treasury yields did not come down—and if we focused more on mortgages, presumably they would not—then the spreads would get so compressed that they would not be attractive to anyone else.

MR. FISHER. I want to come back to exhibit 14, about which President Rosengren asked a question. Are these the most up-to-date numbers, including the ones that were reported in the press in the last two days, regarding the budget situation and the likely Treasury issuance?

MS. MOSSER. Yes.

MR. FISHER. Then I have a question on the last presentation. I may have missed something, but you added that we would have a collateral gatekeeper.

MR. NELSON. We're in the process of hiring at this time. We don't have someone now, but we are hiring two sorts of vendors right now. The process is under way, and we anticipate hiring someone next week, I think. We're looking at what's called a "collateral monitor," which will be a number of firms that will help us value collateral that is pledged to us. We need those professionals in particular for valuing legacy RMBS pledges of collateral, but they will also be able to help us evaluate other collateral, including CMBS, that's brought to us. Then another function that we're hiring for is an expanded collateral custodian.

MR. FISHER. So this isn't just for the CMBS market.

MR. NELSON. No, it is not.

MR. FISHER. Okay. I was a little confused. Thank you.

CHAIRMAN BERNANKE. President Pianalto.

MS. PIANALTO. Thank you. The staff memo on the recommendations for the expansion of the TALF mentions on page 3, in the paragraph on the TALF ceiling and credit support, that you project that the New York Fed will make less than \$150 billion in TALF loans through December 31; and in the Bluebook baseline, it looks as though it is about \$100 billion at the end of 2009. How confident are you that we can then do \$400 billion in 2010, and how important are CMBS to the successful expansion of the TALF?

MR. CARPENTER. There are a couple of parts to that question, so I suppose a couple of people will have to answer. For just the baseline projections, we wanted to be illustrative, first and foremost, to give you all a chance to understand what sort of impact different sizes of TALF programs would have on the balance sheet and what that would mean down the line in terms of levels of reserve balances and potential exit strategies. We intentionally, therefore, did not try to tie it to the operational details that Bill and colleagues are going through in seeing how quickly they would actually be able to arrange deals with specific borrowers for specific types of collateral. Bill, in terms of the detail, I don't know if you or Trish want to comment.

MR. NELSON. I would just highlight that this really illustrates the incredible uncertainty about forecasting things like this. Several months ago we thought that this program would ramp up relatively quickly. We are now observing that it is not doing so, in large part because of things that are themselves hard to predict: the ability of the primary dealers and the customers to work out their legal disagreements and the political concerns of the investors. If those things were to clear up, this program could move up really quickly, but they may not.

MS. MOSSER. One parenthetical comment. On CMBS, our understanding, in talking to the investors and the syndicators, is that the new-issue CMBS are obviously a substantially smaller pool of possible loans and securitizations than the legacy. Opening it up to legacy actually makes the larger number seem, at least relative to take-up so far, more possible. If for some reason we would stop with just the current-sized TALF, I think I at least would be surprised if we got to \$400 billion. But if it is opened up to legacy assets, then the possibility of getting the larger numbers is more likely.

MS. PIANALTO. Mr. Chairman, this obviously may be an issue for discussion in the policy go-round. But if there is a lack of confidence that we can expand our balance sheet with the TALF program, at what point do we talk about other ways to accomplish this? Thank you.

CHAIRMAN BERNANKE. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you. I just want to thank Trish Mosser as acting SOMA manager for dispensing her duties with such élan and skill. As you know, Brian Sack will be joining us as the head of the Markets Group and, subject to the Committee's vote, will become the SOMA manager going forward. But thank you, Trish.

MS. MOSSER. You're welcome. [Applause]

CHAIRMAN BERNANKE. I'd like to interject my thanks also, Trish, for a wonderful job, and to the staff in general. Our whole system has changed from interest rates to balance sheets and from money supply to lending programs, and I have been very impressed. I think our colleagues would share my view that the material you've provided to us on the various programs and the analysis that the Board staff has done on their effects have been extremely helpful, and I just want to express my appreciation for that. President Hoenig.

MR. HOENIG. Just a question on the maturity on the TALF. We want to go from three to five years. That, of course, means that rolling off our balance sheet will be slower. Is the five years determined by conditions that they told us about or the length of the assets being brought on? What caused us to move from three to five years?

MR. NELSON. I guess it's a compromise between what we've heard from market participants about the effectiveness of the program and the feedback from you and others and from the Board on their preferences that the maturity of the loans be kept as short as possible. So we have discussed in particular whether or not a five-year loan would be more effective than a three-year loan, and we have heard back that it would be appreciably more effective.

MR. HOENIG. So the maturity they are really looking for is 10 years.

MR. NELSON. They would like for the maturity to be as long as possible.

MR. HOENIG. Right, because that is what they are turning over now. So this would help them. When they come toward the five years, then they would be pressed pretty hard because they would still have these assets to deal with—to refinance and so forth. Is that right? We will see future pressure as they come against the five years because they need the ten-year length?

MR. NELSON. That's right.

MR. HOENIG. Thank you.

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. I want to express my appreciation to the staff for the comprehensive and voluminous information that they have presented this time about balance sheet projections, breaking out the components and doing a thorough job of presenting the implications for the

base, all the components, and the liabilities. I think it's an excellent, comprehensive, and much better framework for the Committee.

Mr. Chairman, the staff material presented included a memo that I think Brian Madigan distributed about the simulations. There was one about the interest rate effects, large-scale asset purchases, and other work about the effects of different things. Would it be safe to assume that there's a later part of our program in which the staff will be discussing that? If I had questions about the economic effects of changes in our balance sheet for the staff, would that be a more appropriate time to bring it up?

CHAIRMAN BERNANKE. Will you be able to take questions on that after your presentation? Yes, after the economic presentation.

MR. LACKER. Great. Thank you.

CHAIRMAN BERNANKE. Anyone else? If not, I'd like to open the floor for a brief interactive discussion. We have two go-rounds to come, and so there's no need for everyone necessarily to state their views. But I did want to leave open the opportunity so that we can address any issues that are on people's minds.

Let me start. I want to make just a few preliminary comments. I will, in fact, be repeating some things that Trish said, which is that, as we look at the time profile of the balance sheet even under our current plan, it is evident that we are going to need various exit strategies. That is going to be very important. I want to reiterate that we are working very hard—and I will talk specifically in a moment—to bring some specifics to the Committee in June.

First of all, as I think Brian may discuss, one set of issues relates to winding down or extending existing programs. Winding down could mean either letting them expire—many of them are slated to end in October—or changing the terms over time so that they become less

attractive. So in June we will bring to you a set of recommendations from the staff about which programs might be extended over year-end and which might be either allowed to expire or modified in some way so that they will naturally shut down. So that's one element.

Second, as Trish was discussing, we have a set of work streams looking at different ways of sterilizing the balance sheet. I want to begin by saying that, although I think it would be prudent for us to assume that we do not have Fed bills or the supplemental financing program from the Treasury, I think in fact there's a reasonable chance that we will get one or the other at least. The Administration and the Treasury are strongly supportive of Fed bills, and I have gotten some good responses from some key congressmen. So although it may not be the appropriate moment right now to do that, we will continue to pursue that. If that doesn't come through, then of course we can go back also to the SFP, which I think under your assumption was not included in the analysis. So that's a direction in which to go.

In addition, the staff will continue to work on interest on reserves to make that more effective. I think that there are things we can do. Trish mentioned a redeposit facility or a term deposit facility, changing the structure of reserve requirements, and other things that we can do to make that more effective. Another thing we can perhaps do is work with the Treasury to manage GSE balances in a better way so that they don't get dumped into the market. The issue of reverse repos has come up, which would be a way to essentially fund our holdings in the markets other than via excess reserves. Utilizing the repo markets has the advantage of putting upward pressure on short-term interest rates at the same time that we're trying to raise the federal funds rate. So it will have, in some sense, a double effect—both a market effect and an effect on reserve balances. The TALF doesn't look to be likely to go to \$1 trillion. We'll see how it evolves. In any case, we have limited at this point the longer-term commitments to \$100 billion,

and we are looking at possible options for finding different ways to finance the TALF, which also might relieve our balance sheet to some extent. Then, if necessary, we can sell assets, which in turn would be tightening.

So I think these are extraordinarily important. We need to have a good sense of what our exit strategy is as soon as possible, both because we want to be able to reassure markets and ourselves that we are comfortable with where we are and because, if we do decide to become more aggressive and do additional purchases, we would obviously be much more willing to do that if we were quite confident about our ability to exit in a timely manner. I just wanted to assure everyone that we are working on those things, and we plan more-extensive presentations in June on all those issues. Let me now just ask: Does anyone want to comment or raise any issues on this whole set of topics? President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. I, too, want to extend my appreciation to the staff and to you, Mr. Chairman, as well, for your comments just now about the extensive work that's being done. I think it's really terrific, and I know that it has been a lot of work and a lot of new ideas on the table, and I just want to extend my appreciation for all the efforts.

Mr. Chairman, I do have two questions that I'd like to raise. One is in regard to Fed bills. As I've expressed before, I have some trepidation about Fed bills, not because of their economic effect but because of the political ramifications that they may have in terms of a potential invitation for the Congress to express more opinions about what we do with our Fed bills and how we use them. One way to describe this is to suppose that we propose Fed bills to the Congress, and of course, as we've discussed, your preference would be to have those Fed bills with no strings attached—not subject to debt limits, not subject to oversight by the Congress, and so forth. It's not an unreasonable possibility, for example, that the Congress might come back

and say, “We’re going to give you this, but here are the strings that are going to be attached.” My question is, What would we do in that circumstance? Would we be forced then to take Fed bills with the strings attached, or would we then turn around and say, “Oh, on those terms we don’t want it”? If we broach it that way and they come back and say, “Well, you’ve got it,” then from a political standpoint they have potentially a lever to call the Federal Reserve before them to talk about either debt ceiling limits or uses of Fed debt in replacing other kinds of public debt. So I’m just wondering if we have a strategy or if we thought about the consequences. Would we be forced to take it on their terms as opposed to our terms?

CHAIRMAN BERNANKE. Let me just comment. It’s a very good question. I would first like to make the observation that Fed bills are not an exotic instrument. We are about the only major central bank that doesn’t have this capacity. I was having a very entertaining conversation with Governor Shirakawa of the Bank of Japan, and he was explaining to me the subtleties. They have the ability both to take interest on reserves and to issue their own bills and he was saying, “Well, it depends whether it’s two o’clock or four o’clock in the afternoon, which one is better for fine tuning;” and I was saying that I wish I had exactly that kind of flexibility. But what I perceive—and of course, politics are always difficult to assess—is that the resistance that we might get would be less a desire to force us to use Fed bills to support certain credit programs but rather the opposite. I think the concern of the Congress is that it might give us too much unchecked authority, and they might be resistant to doing that. So one possible compromise that might come up, which might answer your concerns to some extent, would be to put a strict time limit in terms of allowing this for the exit strategy but not after that, for example.

About strings being attached, obviously strings that compromise monetary policy independence would not be acceptable, and I do think that we have the Administration’s support

on that issue. For example, if they involved disclosures about programs and things of that sort, if we felt that they were consistent with the effectiveness of those programs and monetary policy independence, those would be the kinds of things we could discuss. At the end of the meeting tomorrow, Governor Kohn is going to talk about some of our transparency initiatives, things we're trying to do that will make us more open in the information we disclose—again, without compromising either the effectiveness of our lending programs or monetary policy independence. So that would clearly be my set of criteria. But I appreciate your point, and I understand that Fed bills are not necessarily an unadulterated blessing.

MR. PLOSSER. Right. The political environments of other central banks that have those aren't necessarily the same as our political environment.

CHAIRMAN BERNANKE. No, but things are tough all over.

MR. PLOSSER. My second question, which you haven't mentioned, is that I'd appreciate any update or thought you have on the inflation-targeting issues that we talked about recently. Is that a continuing discussion? And if so, what is its status?

CHAIRMAN BERNANKE. Yes, we've decided that we would like the Administration to affirmatively say, "We think this is a good idea." We think that's a possibility, but there's an awful lot going on right now, and that doesn't seem to be the top priority. But it certainly is on the agenda. It is still quite alive, and one of the issues would be just when the right time is. You and I would probably agree that there would be advantages to doing it at some point relatively soon, given the uncertainties about exit strategies, Fed policies, et cetera. But we're going to have to let the crush of events to some extent determine what is the optimal point in doing that. I think the Administration has considerable interest in supporting this, and as I said, I got fairly

good responses from a couple of key congressional people as well. So I think it is alive, but we should not be too impatient and should wait for it to mature in the fullness of time.

MR. PLOSSER. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Other comments? Questions? President Fisher.

MR. FISHER. I would like to go back to President Plosser's first question, just to understand the politics here. If we pursue getting approval for Fed bills, which committee do we go through to do that?

CHAIRMAN BERNANKE. I would imagine it would be the oversight committees—the Committee on Banking, Housing, and Urban Affairs in the Senate and the Financial Services Committee in the House.

MR. FISHER. For which there is also a lot on their plate.

CHAIRMAN BERNANKE. True.

MR. FISHER. I mean, look at the Dodd–Shelby committee, for example. Having talked with Governor Shirakawa about this just two weeks ago—there's enormous political interference in his operations, as you know—I share President Plosser's concern—not that it's not a good idea, but again, this is enormously complicated, given the other things that are involved. From a banker's standpoint, I'm particularly sensitive given some of the language that's in there. That, too, is complicated—that is the point I want to make. I assume that we are aware of that and are trying to maneuver our way through it.

CHAIRMAN BERNANKE. I understand that, and as I said, I think we have to plan. We may have this tool, but we should plan as if we will not have it. Other comments? All right. If there are no other comments, we have a couple of votes to take. The first is to ratify domestic open market operations.

PARTICIPANT. So move.

CHAIRMAN BERNANKE. Objection? I see none. Second, Trish mentioned very quickly—and you did receive a memo—the annual renewal of the swap lines with Mexico and Canada. This has been going on for many years. I think that they are somewhat redundant at this point, given the other swap lines that we have, but we have maintained this relationship for some time. Is there any discussion or are there questions about that? President Lacker.

MR. LACKER. In the past, the Richmond Bank and I, myself, have had a tradition of voting against these. Earlier this year I did vote in favor of the swap lines that were introduced as part of our management of this crisis. I'm willing to support these, given that a reexamination of these is under way. The distinction in my mind is the association of these particular swap lines with the history of foreign exchange intervention, which has been thought of as fiscal policy and outside the bounds of this institution, quaint as that notion may seem these days. [Laughter] So I'm happy to support this now.

CHAIRMAN BERNANKE. Thank you. Other comments or questions? Could I have a motion?

MR. KOHN. So move.

CHAIRMAN BERNANKE. Without objection. Thank you very much. Let's turn now to the economic situation and Dave Stockton.

MR. STOCKTON.³ Thank you, Mr. Chairman. Nathan and I are going to be referring to the two exhibits entitled "Recent Economic Indicators." The question everyone seems to be asking is whether, in the parlance of our Chairman, we are now seeing "green shoots" in economic developments both here and abroad. Nathan and I thought that we would take a crack at addressing that question this afternoon. I should note right up front that my track record for spotting green shoots is not inspiring. While in high school, I had a brief job with a lawn service. One day while I was riding my tractor, a woman came running out her back door gesticulating wildly. It turns out that the patch of unruly weeds I had just mowed down were, in

³ The materials used by Messrs. Stockton and Sheets are appended to this transcript (appendix 3).

fact, the green shoots of her emerging asparagus garden. [Laughter] Two weeks later, I was working in a local slaughterhouse. That life lesson taught me that an inability to distinguish the green shoots from the weeds can have unpleasant consequences for one's career path.

Unfortunately, I have found that, over time, the job of making those kinds of distinctions hasn't gotten any easier. Case in point: The economic data that we have received over the past six weeks have presented a decidedly mixed bag. To be sure, they stand in sharp contrast to the preceding six months of data that were unrelentingly awful. One area in which the incoming data suggest that contraction may be giving way to stabilization is consumer spending. As shown in the top left panel of the first exhibit, real outlays for consumer goods other than motor vehicles plummeted in the second half of last year, knocking more than 2½ percentage points off the change in real GDP. More recently, spending appears to have flattened out. The data are noisy on a monthly basis and subject to sizable revisions, so any conclusion that declines here have ended would be premature. Still, the consumer sector is looking better today than it did earlier this year. Housing also may be stabilizing, or at least not falling as rapidly as it had been earlier. Sales have steadied a bit in recent months, and single-family starts and permits—shown in the panel to the right—have flattened out thus far this year. But as this chart makes clear, there have been other instances of relative stability over the past couple of years that proved not to be durable.

Similarly, the steep declines in motor vehicle production that occurred last fall and into this winter may be over, and a small uptick in production seems to be under way. As seen in the middle left chart, the automakers slashed production in the fourth and first quarters in response to the weakening of sales and excess inventories. Production moved up some in February and March and was scheduled at a pace of about 6 million units for the second quarter. Given the lingering inventory overhang in this sector, we had assumed in the Greenbook an underbuild of about 0.5 million units. The announcement of production cuts by GM after we closed our forecast suggests that we were leaning in the right direction. Indeed, given that announcement, we would be inclined to take another 400,000 units off the forecast of motor vehicle production in the second quarter. That, in turn, would lower our current-quarter GDP forecast about ¼ percentage point. But as can be seen by the red dot, even with that adjustment, motor vehicle production is likely to be a small positive for current-quarter growth rather than being a substantial subtraction, as it had been in the preceding two quarters.

As shown in the panel to the right, outside motor vehicles, manufacturing output continued to contract sharply through March, with the declines widespread. At this point, we have a few regional purchasing managers' surveys that are pointing to some lessening in the rate of decline in the factory sector. But with inventory–sales ratios high, our expectation is that manufacturing IP will continue to drop appreciably in coming months. We received orders and shipments for nondefense capital goods (plotted in the bottom left panel) after we completed the Greenbook. Those data were

very close to our expectations and consistent with our view that equipment spending will continue to decline rapidly this year. Likewise, the available information suggests activity in the nonresidential construction sector remains on a steep downtrend. In brief, there are few green shoots among the indicators of capital spending. But the biggest single challenge to our view that the pace of contraction in aggregate activity is lessening comes from the labor market. Initial claims for unemployment insurance (plotted in the bottom right panel) have moved up further on net since the last employment report, pointing to another sizable decline in payroll employment this month. Other labor market indicators are similarly bleak. Undaunted, we are forecasting some gradual lessening in the pace of job loss in coming months. But that is pure forecast, based on our assessment that the decline in aggregate output is, in fact, abating. I should note that, even if we are right and the rate of decline in aggregate output is diminishing—or, in another of the day’s favorite phrases, the second derivative of activity is turning positive—that isn’t setting the bar very high. We could be correct about the sign of the second derivative, but if we are in the process of shifting from a 6 percent rate of contraction to, say, a 4 percent rate of contraction, then the look and feel of this economy will not be much different in coming months than it has been over the past six months.

For now, we read the balance of the data as suggesting that the intensity of the recession is letting up some and that, indeed, activity has been a bit firmer than we had projected in March. Some of the modest upward revision that we made to the forecast of activity in the first half of this year reflected the upward surprises in consumption and housing that I mentioned earlier. But as Nathan will discuss shortly, we have also been surprised by a plunge in imports. While it would be hard to chalk that up as “good news,” it does imply that the weakness in domestic demand that we observed in recent months has fallen more on foreign producers and less on domestic producers than we had previously estimated.

If the modest upward surprises in the economic data were the only information that we had received over the intermeeting period, the revisions to our forecast beyond the current quarter would have been small, and we would likely have continued to project a contraction in aggregate activity through the end of the year. But as you know from reading the Greenbook, we revised up our projection of real GDP growth in the second half of this year and in 2010 about 1 percentage point at an annual rate. That upward adjustment reflects almost entirely the improvement in financial conditions of late. Equity prices in this forecast are nearly 20 percent above the levels anticipated at the time of the March Greenbook. The 30-year fixed-rate conventional mortgage is about 35 basis points lower than we had been expecting. The triple-B corporate bond yield is down about 50 basis points, and junk bond yields are down considerably more. At the same time, since the March Greenbook the broad nominal dollar has fallen roughly 3½ percent, providing additional impetus to demand for domestic production.

As you know, we have been monitoring measures of financial stress and the results of the Senior Loan Officer Opinion Survey to gauge changes in financial

conditions that operate outside the normal interest rate, asset price, and exchange rate channels captured by our models. These measures also have improved of late and have led us to make some additional upward adjustment to our projection this round. The improvement in financial conditions in recent weeks is unquestionably good news. But we are uneasy that a forecast revision of this dimension rests so heavily on readings from financial markets, which at several points over the past two and half years have shown signs of stabilization that proved short-lived. And principally because there are no signs of improvement in the labor market, we still view the risks to our forecast has more heavily weighted to the downside. That said, for the first time in a long while, we are experiencing developments that give some shape to the upside risks to the forecast. Better economic news and improving financial conditions, such as we've seen in recent weeks, could feed back on each other more powerfully than we have allowed for in the baseline forecast, producing a stronger recovery.

For now, our best guess is that the contraction in activity will continue through midyear, that output will roughly stabilize in the second half, and that something that begins to feel like a recovery will get under way by the middle of next year. The basic factors influencing this trajectory will be familiar. The inventory cycle plays out, with the liquidation of stocks lessening over this year and turning to a small accumulation next year. Housing bottoms out in response to improving affordability. Fiscal stimulus provides support to consumer spending and to cash-strapped state and local governments. Monetary policy remains accommodative, and financial markets and institutions continue to heal gradually, providing support to household and business spending. As Nathan will discuss, similar improvements are expected to become evident in foreign economies.

Turning to the inflation forecast, after three consecutive months in which core PCE prices were unchanged, we have now had three months in which those prices rose about 0.2 percent per month. We think there are some good reasons to average across this period, and that is close to what we have done in this forecast. For one, the price changes late last year were especially low for goods prices. There were widespread reports that the exceptional weakness in sales last fall had led to deep discounting by retailers. As sales firmed early this year and merchandisers made some progress in working off inventories, those discounts have reportedly been reduced. This may be one of the rare instances in which the anecdotes and the data are in reasonable accord. A second factor helping to explain the pattern has been the behavior of nonmarket prices, which posted very small increases late last year and larger increases of late. As you know, we don't attach much signal to the movements in these prices.

Our basic take on the data is that there has been some deceleration in core consumer prices over the past year. On a 12-month change basis, the change in core PCE prices appears to have slowed from a pace of about 2¼ percent a year ago to a pace of just under 2 percent by March of this year. Looking ahead, we expect some further deceleration in core inflation, to 1¼ percent for 2009 as a whole and ¾ percent

in 2010. Sizable economic slack and reduced cost pressures associated with the earlier declines in the prices of energy and other commodities should put downward pressure on price inflation over the next two years. We have a little less disinflation in this forecast than in March owing to the somewhat stronger economy, the weaker dollar, and higher oil prices. But for the most part, the trajectory remains the same.

We continue to see large risks on both sides of our projection of inflation. On the downside, most of the econometric models that we follow project greater disinflation, with many forecasting inflation to move below zero. Even if the slope of the aggregate supply curve is relatively shallow, an output gap of 6 to 7 percent can exert noticeable downward pressure on price inflation. Moreover, these models expect an extended period of low actual price inflation to result in a downward movement in inflation expectations. These mechanisms are at work in the baseline forecast, but more faintly than in the models. The chief reason is that we are skeptical that inflation expectations will drop as much as suggested by most of these models. We have seen little movement in measures of longer-term inflation expectations over the past six months despite rising unemployment and declining commodity prices. Indeed, an important upside risk to our forecast is that there is no material retreat in inflation expectations and, consequently, less disinflation going forward than we currently project. Nathan will continue our presentation.

MR. SHEETS. Like the domestic forecast, our outlook for growth in the foreign economies is a little stronger than in the previous Greenbook—up about $\frac{1}{2}$ percentage point on average throughout the forecast period. We estimate that output abroad contracted sharply in the first quarter of this year, matching the fourth quarter's 7 percent drop. We expect real GDP in the second quarter to contract a further $2\frac{1}{2}$ percent at an annual rate—which, although representing some moderation in the pace of decline, would still be the worst quarterly outcome in four decades were it not for the plunges recorded in the two previous quarters. Our working hypothesis is that foreign growth will gradually rebound, turning slightly positive in the second half of this year before recovering more earnestly next year. Consistent with this forecast, we believe that some early signs of stabilization around the world are starting to emerge, although the evidence on this score is admittedly mixed.

Your international exhibit shows some data that have informed our thinking. As in the United States, equity prices around the world (the top left panel) have moved up since the time of your last meeting, potentially suggesting that some severe outcomes may now be seen as less likely. These gains in stock prices were led by a rebound in financial sector equities. More broadly, global financial stress appears to have receded some: LIBOR–OIS spreads, CDS premiums, and corporate bonds spreads have all posted declines. The spot price of WTI has risen to around \$50 per barrel, up about \$7 per barrel since the March Greenbook. Other commodity prices have also increased, albeit by smaller amounts. In the case of oil, the rise likely reflects OPEC's aggressive production cuts of $3\frac{1}{2}$ million barrels a day since September. But with a broad array of commodity prices showing increases, the rise may also signal a stronger outlook for global demand for commodities.

In the advanced foreign economies, the recent news on activity has been mixed. Industrial production, shown in the middle left panel, has continued to sink, and unemployment rates have moved up more. The Japanese economy experienced a particularly sharp decline in the first quarter, with GDP plummeting an estimated 18 percent at an annual rate, an even steeper drop than in the fourth quarter. For other advanced foreign economies, the rate of contraction is estimated to have also steepened in the first quarter, albeit less dramatically. However, some recent survey data show signs of an incipient slowing in the rate of contraction. Purchasing managers' indexes and some other surveys have tended to edge up over the last month or two. These surveys remain below 50 and thus indicate further contraction but at a slower pace. That said, the picture is far from uniform; for example, Japan's Tankan survey (not shown) sank in the first quarter to its lowest level on record.

In emerging Asia and Latin America, we see a little more evidence that the sharp drop in activity may be letting up. As in the advanced economies, most purchasing managers' index surveys suggest some abating in the rate of contraction, and China's PMI indicates that the expansion has resumed. Many of the sharpest declines in output were in economies that were heavily exposed to the collapse in world trade. The bottom middle panel shows that exports in some countries have ticked up somewhat or flattened out, although they are still at very low levels. To varying degrees, industrial production has also bottomed out in China, Korea, Brazil, and Mexico. Perhaps most notably, China's GDP release for the first quarter surprised us on the upside, with growth rebounding—by our reckoning—to roughly 6½ percent at an annual rate, up from just 1½ percent in the fourth quarter. We see this bounceback as suggesting that the substantial stimulus that the authorities have put in place may be working more quickly than we had anticipated. But we underscore our standard disclaimers about the reliability of the Chinese data.

At the time of the last Greenbook, our decision to write down a forecast that called for the pace of contraction to ease during the second quarter was largely an act of faith. We are now a little more confident in this regard. In addition to the early glimmers of hope in the data, governments and central banks around the world continue to actively combat the weakness in demand with fiscal and monetary stimulus. More central banks in the advanced economies have neared the zero lower bound on nominal interest rates, and others have maintained or expanded their unconventional measures. Central banks in emerging-market economies have been able to lower their policy rates as well. Moreover, the recent commitment by the G-20 leaders to increase the IMF's lending capacity and the introduction of the Fund's new flexible credit line appear to have diminished the downside risks facing the emerging-market economies.

Based on these developments, the overall tone of our international forecast has notched up from one of unmitigated terror in March to just very deep anxiety at present. Suffice it to say that we still see many risks: The recent data have been mixed—with those ticking up only having done so for a month or two; financial

market conditions are still fragile; and it remains to be seen whether the macro policy responses that have been put in place will be sufficient to stem the ongoing declines in private spending. Moreover, the recent outbreak of swine flu poses potentially serious downside risks to economic activity, particularly in Mexico.

The global recession is having a profound effect on U.S. trade. We now estimate that both exports and imports dropped an astonishing annual rate of 31 percent in the first quarter, with imports more than 11 percentage points weaker than projected in March. Together these changes add 1 percentage point to U.S. GDP growth in the first quarter. February imports were held down partly by production disruptions associated with the Lunar New Year in Asia, but West Coast port data for March suggest a rebound. Auto trade, especially imports, should bounce back some following North American production shutdowns earlier this year. That said, the ongoing disruptions in the auto sector are likely to generate further fluctuations in trade flows in coming months. Also, notably, the ISM series for export orders has inched up from its December low.

Since the March Greenbook, the broad nominal dollar has fallen roughly 3½ percent. This depreciation has come in response to a number of developments, including the FOMC's March announcement that it would ramp up asset purchases, the smaller-than-expected cut in the ECB's policy rate early this month, and signs of diminished risk aversion—which have tended to support EME currencies. Despite this depreciation over the past six weeks or so, the broad dollar is still up more than 2½ percent since the end of last year.

Going forward, the decline in the dollar and higher foreign growth have raised our projection for exports, and the stronger outlook for the United States has lifted our forecast for imports as well. But even after these upward revisions, the outlook for trade is still quite weak, with exports continuing to contract through the third quarter and import growth remaining soft. Net exports, after adding a little more than ½ percentage point to the change in GDP in the second quarter, are projected to subtract ½ percentage point on average in the second half of this year and in 2010. All told, while signs of stabilization might very well be appearing, they do not change our view that the global recovery will most likely be slow and tentative. In the realm of green shoots, our forecast is much more like a small potted plant or a vulnerable asparagus garden than a large leafy tree. [Laughter] Brian will now continue our presentation.

MR. MADIGAN.⁴ I will be referring to the separate package labeled “Material for Briefing on FOMC Participants’ Economic Projections.” Exhibit 1 tabulates the central tendencies and ranges of your latest projections. Corresponding information about your January projections is indicated in italics, and April Greenbook projections are included as memo items. As shown in the top left portion of the table, your forecasts for real GDP growth in 2009 have a central tendency of minus 2 to minus 1¼ percent. That is a downward shift of about ¾ percentage point from

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

January, reflecting markdowns to your forecasts for both the first and the second halves of this year. Most of you now anticipate that output will contract at an annual rate of $3\frac{1}{2}$ to 4 percent during the first half of this year. Almost all of you see positive growth during the second half, albeit generally at a low rate, reflecting slow and uneven improvement in financial conditions, some stabilization in the housing sector, and stimulative monetary and fiscal policies. Consistent with the downward revision to near-term GDP growth, each of you revised up your projection of the unemployment rate for late this year; the central tendency of your forecasts for unemployment in the fourth quarter of 2009 is now 9.2 to 9.6 percent, an upward shift of about $\frac{3}{4}$ percentage point from your January projections.

Looking further ahead, all of you project a pickup in economic growth in 2010, as financial conditions continue to normalize, and robust growth in 2011. Consequently, you expect that the unemployment rate will be trending down during those years. But each of you indicates that the unemployment rate in the fourth quarter of 2011 is likely to be well above your estimate of the long-run equilibrium unemployment rate. As shown in the exhibit, the central tendency of your projections for unemployment in late 2011 is $7\frac{3}{4}$ to $8\frac{1}{2}$ percent, whereas the central tendency for the longer-run equilibrium unemployment rate, just to the right of the dotted line, is $4\frac{3}{4}$ to $5\frac{1}{4}$ percent.

Turning to inflation, shown in the lower half of the table, all of you see slower headline and core inflation this year than in recent years; the central tendency of your projections for headline PCE inflation in 2009 is 0.6 to 0.9 percent. About three-quarters of you project that inflation will remain at or below your view of “mandate consistent” inflation through 2011. But reflecting the diversity of models of inflation dynamics in use among economists and central bankers, some of you see inflation slowing through 2011 in response to a persistently high degree of economic slack, whereas several of you see inflation rising above your estimate of “mandate consistent” inflation in 2011 or even in 2010 as inflation expectations respond to rapid expansion of the Federal Reserve’s balance sheet. The central tendency of your projections for headline inflation in 2011 is 1.0 to 1.9 percent; the range, at 0.5 to 2.5 percent, is much wider.

Your views on the outlook for this year and next are broadly similar to the staff’s view: Greenbook projections for real GDP growth, unemployment, and inflation for 2009 and 2010 are all within the central tendencies of your projections. That similarity breaks down in 2011: About two-thirds of you predict both higher unemployment and noticeably higher inflation in that year than does the Greenbook. Indeed, several of you noted explicitly that you do not share the staff’s view of inflation dynamics. That divergence in views may help explain why about half of you anticipate that it will be necessary to begin moving the federal funds rate up in 2011 or even in 2010, appreciably earlier than envisioned by the Greenbook, which assumes that the federal funds rate will remain close to the zero bound through 2012. None of you changed your views on the “mandate consistent” inflation rate in this round: The central tendency remains $1\frac{3}{4}$ to 2 percent, and the range remains $1\frac{1}{2}$ to

2 percent. Three of you are at 1½ percent, two are at 1¾ percent, and twelve are at 2 percent.

As shown by exhibit 2, your views on the uncertainties and risks in your projections have not changed appreciably since January. Almost all of you again see greater-than-usual uncertainty in your projections of both growth and inflation, reflecting the unusual nature of the shocks that triggered the current recession and our limited experience with unconventional policy tools. Most of you continue to judge that the risks to growth are tilted to the downside (and those to unemployment tilted to the upside) but that risks to inflation are roughly balanced. Some of you note that you see the near-term risks as tilted to the downside but see the risks to growth in your outyear forecasts as roughly balanced, whereas several of you stated that the rapid expansion of the Federal Reserve's balance sheet will shift inflation risks to the upside going forward.

In short, your current projections show a deeper recession in 2009 than did your January projections but not a longer recession. Your projections continue to show a recovery starting later this year. Most of you still expect the recovery to be sluggish initially but to gain traction in 2010 and to pick up steam in 2011. Even so, none of you thinks that the economy will have returned to full employment by the end of 2011. Most of you expect inflation to remain subdued, but the range of views on the outlook for inflation in 2011 remains wide. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you very much. Are there questions for Dave, Nathan, or Brian? President Lacker.

MR. LACKER. Yes. I would like to ask a question about the effect of our balance sheet expansion on the economy. I notice that the staff has come around to the view that purchases of Treasuries or MBS are likely to have roughly equal, similar magnitude, effects on a range of interest rates. As I have argued, that is the natural place to start. A couple of points in some of the staff material mentioned that the amount of reserves on bank balance sheets could crowd out private lending. I wanted to explore that a bit because it is at the core of our struggles to figure out just how the stimulus of a larger balance sheet works. I take it that the way your analysis works is that microeconomically, market by market, Treasuries do this and MBS do that, based on the ratios that you calculate, and you estimate the effects that way. But on bank lending, wouldn't it be the case that the Treasuries or the MBS that we purchased would free up space on

private-sector balance sheets that would crowd in private lending in an amount equal to the amount that the increase in reserves on bank balance sheets would crowd out private lending?

MR. MADIGAN. I think to some degree that would be true. The question is, to some degree, where the Treasuries come from, at least in terms of focusing on your question about the leverage ratio. If they are coming predominantly from the banking sector, that may have the effect you are talking about. But if they are coming from outside the banking sector, where capital ratios are less important, that won't have the effect relative to the leverage ratio that you mentioned.

MR. LACKER. Well, let me follow that up. Let's say it all comes from outside the banking sector. Then you have all these folks outside the banking sector, and they all have bank deposits because we buy these through banks. So the liability side of all the banks has gone up. As a first step, that doesn't change the capital ratio, but the traditional sort of money market buyer's story, that traditional mechanism, has banks, when they have more reserves relative to deposits than they want, lending it out and scaling up their balance sheet. And while the standard money-and-banking textbook leaves bank capital aside, the natural extension is that they are able to bid for capital in the appropriate ratio to the size of their balance sheet. Granted, some banks are currently holding lots of these reserves and are having difficulty raising private-sector capital now and are not in a strong position to increase the balance sheet. But there is the rest of the banking sector, and the reserves can easily be lent to them and find their way through the usual mechanism. So it seems as though there ought to be the opportunity for that inflow of deposits to finance itself. That is just a one-for-one effect. Then, on top of that, you have the potential for a multiplier effect. Right?

The reason I ask about this is that the usual prediction would have been that this amount of reserves would have just led to an explosion in M2, an explosion of lending, and a burst of inflation. You mentioned at the beginning that one way to think about this is, well, we are buying Treasuries from banks, so they are holding more reserves, but we are on the flat part of the demand curve because of interest on reserves. So what we are adding in reserves is a perfect substitute for what we are taking out—short-term Treasury bills. But banks' holdings of Treasuries, agencies, and MBS, which are all presumably perfect substitutes, have gone up \$200 billion. So it doesn't seem as though it is the case that we are just engineering a substitution of reserves for debt on bank balance sheets. It seems as though banks have substantially increased their demand for liquid assets. That seems to explain why we aren't getting this money multiplier effect. But, then, we are going to run up reserves to \$2¼ trillion, \$2½ trillion. What if we take this baseline assumption that reserves are a perfect substitute, at the interest rate on reserves—for short-term Treasuries, agency debt, and MBS, say—and we run up reserves to \$2½ trillion? Aren't we going to run through banks? I mean, unless their demand for liquid assets rises, aren't we going to just push through that? And how are we going to think about what happens to bank balance sheets?

MR. MADIGAN. I don't know what you mean by "push through."

MR. LACKER. Well, they are holding reserve balances of \$800 billion, \$900 billion, plus \$1.2 trillion in the stuff that is kind of a perfect substitute for it. We are going to make reserves bigger than that sum. So something has to give, and we struggle with what that is going to be and what kind of stimulative effect that might have.

MR. REIFSCHNEIDER. Part of the experience from Japan is that the Bank of Japan had a hope that that would happen—that in effect at some point you pile up enough excess reserves

that banks just don't want them anymore and they begin to lend them. So it begins to operate the way that you say. But it didn't in Japan. The experience—at least the way we have read it—was that it never happened. So if we go back a few months, when we started thinking about how expanding the balance sheet might work, and go back to the list of things that we sent the Committee in December, the mechanism you just described was on the list of “Could it work this way?” We've learned a lot from the experience of Japan and have taken a lesson from it—that it seems as though you can run up excess reserves to a tremendous amount and the banks will just accept it. What came up this time was a twist that I had never thought of before—I'm definitely not the expert in this room on this; Brian can speak to it—the sense of how it actually could begin to work in the other direction. Because of the way leverage ratios, for example, are calculated, the banks might actually get so uncomfortable with so many reserves that they would actually begin to cut back on lending. I don't know that we've seen that either. We haven't, but that was a sort of perverse effect like this that the Japanese began to worry about.

CHAIRMAN BERNANKE. Couldn't you just as well argue that, if they ran into that constraint, they'd want to get rid of the reserves and lend them out?

MR. REIFSCHEIDER. But then the problem is that it doesn't help. But that's a problem in the capital position.

MR. MADIGAN. I think the question is whether the banking system as a whole is acting as though it's constrained by capital and whether we expect that it will continue. Now, we certainly think that that's the case. Bank credit overall is contracting pretty markedly, and of course, we all know about very low bank share prices and the difficulties in raising capital. So I think the implicit assumption here is that, at least for some time going forward, the banking sector as a whole will remain capital constrained. I agree that there is some scope for shifting

credit around among banks, but at least the current experience with the behavior of banks strongly suggests that the system as a whole is constrained.

MR. LACKER. Well, the runoff of bank credit by itself doesn't speak to whether or not they are capital constrained. I mean, lots of people report a decline in demand.

MR. MADIGAN. No. Most people are not wanting the assets.

MR. LACKER. We've discussed this before at a few meetings: Nobody is as creditworthy as they were two years ago, and there have been widespread reports of declining demand for credit, even in the Greenbook this time as well.

MR. MADIGAN. I agree. It's both demand and supply for bank credit, but we have very strong experience that the supply of bank credit is contracting.

MR. LACKER. But the Japan experience—I mean, there must be some limit to this, right?

MR. REIFSCHEIDER. Well, they took it a long way. Now, it could be that demand for credit was imploding enough that the Bank of Japan just never took it far enough, but the Bank of Japan took it an awfully long way. We thought that a distinction between what they did and what we have been doing is that we are targeting liquidity support operations toward particular sectors—markets that are having severe problems—or, alternatively, trying to do a major twist on the yield curve to drive down long rates—so two things that they didn't really try at the scale that we're trying.

CHAIRMAN BERNANKE. I have two-handers from Governor Kohn and President Yellen.

MR. KOHN. Thank you, Mr. Chairman. Of course, if the banks lend it out, it doesn't destroy the reserves. If they started lending it out, which would be great, their whole balance

sheet would rise, and an individual bank might see that it had substituted one asset for another. But the banking system can't get rid of the reserves. My question is whether lowering the interest rate on excess reserves would help the process that President Lacker was talking about. Part of the problem—well, maybe it is not a problem—so part of the phenomenon is that they can earn 25 basis points on a totally risk-free asset, so the incentive for them to look for alternative assets and set in motion the sort of traditional transmission mechanism that President Lacker was talking about is somewhat damped by that.

MR. MADIGAN. I think the question is how much. Surely it goes in that direction. In evaluating the risk–return tradeoff from holding reserves or making a commercial loan at LIBOR plus 200 or some other basis, there's a big difference between those returns. You wonder whether lowering the relevant rate of either 25 basis points on excess reserves or the federal funds rate from 15 basis points further down really is going to make a very big difference. One of the costs you have to trade off in making that judgment is whether you are concerned at all about the market effects that would surely come about on the federal funds rate amid all the things we talked about previously regarding the possible impairment of market function. Now, there are possible offsets to that. Trish already mentioned the change in the new fails penalty, for instance, which might help deal with at least one of those issues.

CHAIRMAN BERNANKE. President Yellen.

MS. YELLEN. Just a quick comment. I've also been worried about the leverage ratio issue and whether or not it might mean that our long-term asset purchases have a perverse effect. Looking at leverage ratios for various large banking organizations, they don't seem very close to the regulatory minimums. On the other hand, I thought you had reported to us that the major reason that interest on reserves had failed to provide a floor for the federal funds rate—after all,

the question is why banking organizations don't borrow at the federal funds rate and then hold them and earn a higher return by keeping it in their accounts and earning interest on reserves—was concern about leverage ratios and leverage ratios beginning to bind. I thought that perhaps you mentioned—I can't recall where I heard this—that large banks have been asked why they aren't doing that. If I'm right that concerns about leverage was their answer, then it gives me greater concern about this issue.

CHAIRMAN BERNANKE. Trish.

MS. MOSSER. One change in behavior, though, from the very first implementation of interest rates on excess reserves back in the fall, whether it was a learning curve, getting our systems up to date, or whatever—Chris can correct me if I'm wrong on this—the major downward pressure on the funds rate now is due to the trading by the GSEs, which don't get the 25 basis points. They're not eligible for it. In fact, the trading between banks is actually quite small right now.

MS. YELLEN. Why can't the large banks borrow in the funds market from the GSEs and hold the proceeds in their account and arbitrage that out? I understand that the GSEs can't earn interest on reserves, but it seems like a pure arbitrage opportunity.

MS. MOSSER. They can simply buy it and hold it, but that doesn't show up in the reported funds rate. The reported federal funds rate that you see every day is on the broker trading volume, and the vast majority of the people who bother to trade are the GSEs.

MR. BURKE. The GSEs are selling fed funds, and banks are buying them, holding them, and arbitraging the rate as you're suggesting. But roughly speaking, 80 percent of the brokered volume that we're seeing in fed funds is GSE sales. So in terms of what we're seeing as actual rates being reported and why those rates are where they are, I believe it's a function of GSEs

selling and banks buying, where banks buy at 15 and hold at 25 and make that arbitrage. But that doesn't answer the question of why more banks aren't buying more and then lending and making an even bigger spread. The anecdotal evidence that the Desk has gotten from the banks is that it's a leverage ratio constraint.

MS. YELLEN. And that's what's feeding my concern about this leverage issue.

CHAIRMAN BERNANKE. This is a good issue for us to look at more carefully.

President Lacker.

MR. LACKER. If I could just comment on this—just two things. First, President Yellen, the way I'd reconcile it in my mind is that the first part of your question sounded as though you were thinking about the leverage ratio with a fixed amount of capital as constraining your balance sheet and what I think Chris Burke replied was that the gist of what we've heard from banks is that they act as if there's a shadow value that they have to earn on that arbitrage. Imposed internally on their trading desk is the shadow price on their capital, and I don't think that those two are inconsistent.

Then Governor Kohn talked about lowering the interest rate on reserves. I guess I think about banks as choosing, taking the interest rate on reserves and a bunch of other interest rates as given, how much they want to hold; and for us to put more out there is going to require some interest rate other than the interest rate on reserves to adjust. That's different from the usual situation in which, when we increase reserves, you go down this demand curve, and the federal funds rate itself changes. Here it's essentially the price of substitutes. So repo rates, reverse repo rates, and the yields on agency debt would be the first things that ought to change to induce them to want to meet their demand for liquid assets via reserve balances rather than agencies or what have you. I think that more insight into that would be really useful. Let me just point out

that your work on the effect of large-scale asset purchases entirely ignores all of this. It's as if it doesn't matter how we finance these purchases, whether by bank reserves, Fed bills, or what have you. That makes me a little uncomfortable in placing too much weight on them in these simulations.

Let me finally mention that what motivates all of this is how we know we're going to be doing enough—President Pianalto's question. How do we know if we've done too much? How do we know, looking at this, when to reverse course? And how do we know when demand by banks for reserves is pulling back and they're about to try to lend them out to get rid of them and set off an expansion in M2 in lending? These are tough questions, and I think, Mr. Chairman, supplementing your outline of work going forward with some analytical work on this issue that uses our insight into bank balance sheets and bank balance sheet management would be useful. Thank you very much.

CHAIRMAN BERNANKE. I think those are solvable problems. President Evans, you've been waiting.

MR. EVANS. Thank you, Mr. Chairman. I have two questions, but first, I want to thank the staff for a very careful, thorough investigation of the role of inflation expectations in the simulations, and the simulations in general. I don't think this is a very important issue for today, but in terms of the modeling strategy, I was somewhat surprised about the way that you came out in favor of the adaptive expectations for modeling medium- or long-term inflation expectations. Especially at a time when we're concerned about the possibilities that our extraordinary monetary expansions might make some people uncomfortable with the expectations, I thought that you would at least have a channel in there that we could activate and see how that affects

things. As I say, I don't think it's really very important for discussion today, but it will be as we start going forward on that. I don't know if you want to comment.

MR. REIFSCHNEIDER. I think we made a change, as you've said, this time. We also said in the memo that we were continuing to work on it. We are definitely leaving it open. I hope it was clear from the memo where we are. We're very uncertain about it, and at the moment we have a number of people working on trying to figure out a new way. There are a couple of things. First, I suspect that you probably will be changing things over time. Where we locked it in this time is just for the moment. Second, I assume that, as we go forward, we will continue to do the sort of thing we've done in the past, which is to present you with alternative ways of thinking and alternative ways of how this might play out. Even when we're through the episode, we probably won't be able to tell exactly what truth is. But certainly as we're going through the episode and we definitely don't know what truth is, we're going to provide alternatives.

MR. EVANS. Right. I appreciate the effort, and I thought it was very well done, very careful. The second question, in terms of the Greenbook analysis—well, the forecast—is if you could clarify a bit the way that you make assumptions about the credit environment. I know that you have special factors during this period—you have the principal components from a few different surveys—and I think that that's very helpful. It's not a surprise that I would favor something like that. I guess the question is, coming through the bank stress test and if there are concerns that the banks that are going to have to take the additional capital and they're unhappy about this and they'd like to get out from under it, it's not quite clear to me that they will try to lend a great deal on the basis of the additional capital. It's sort of insurance against future losses. So we might be facing additional credit squeeze conditions. How important is that for this

Greenbook forecast? How is it incorporated as a potential risk? In thinking about the financial factors, I know the forecast has exogenous and endogenous components as to how they'll run off, but I doubt that it incorporates that type of risk factor. Is that right?

MR. STOCKTON. You are correct. It doesn't. We're using several imperfect measures of financial stress to fix a misspecified model. So the exact kinds of concern that you have about the bank channel into overall lending and spending are really missing from the staff's large-scale model. What we're trying to do is gauge some of these imperfect measures—first, from some measures from the capital markets and principal components of various measures of volatility, spreads, and so forth and, second, from the principal components of the Senior Loan Officer Opinion Survey. We're still going to have to apply a lot of additional judgment to the forecast going forward as we see bank lending conditions changing in ways that maybe those measures are not capturing. I just think this is just one additional area that we're going to be struggling with going forward.

MR. EVANS. But it does seem likely that, if there were a less-than-positive reaction and the various spreads started to back up, we would see this in the indicators that you're looking at, and that would have a natural type of damping effect on the forecast. So some of it would be accommodated, and then some would be more judgmental.

MR. STOCKTON. We'd be capturing more as it was happening, but I think that our ability to forecast what is going to happen is severely limited.

MR. EVANS. Thank you.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. Mr. Chairman, my question is on a different part of the credit markets, and that's the bond markets—private debt. If I recall correctly in the Bluebook, we have had an

impact—there has been a response or at least an action—and the spreads have narrowed somewhat. Issuance is “robust” or such, relatively speaking. My question is, Where do we think it’s going? Obviously it’s not going to cap-ex. I presume this is the question. It’s going into paying down bank debt or replacing short-term debt. Is that correct? And if that’s correct, do we have a sense whether this is significant in terms of the impact on the economy?

MS. MOSSER. To the extent that it’s paying down higher-cost debt—

MR. FISHER. Short-term debt.

MS. MOSSER. Aside from paying down short-term debt, it’s reducing their liquidity risk and taking pressure off money markets. To the extent that it is replacing more-expensive bank debt and loans with corporate debt that less expensive and long-term and so less expensive in the duration sense—then that’s additional cash for the corporation. So it’s a pretty classic recession shift in composition in the corporate bond market, when cap-ex is usually declining. I don’t know that what they’re doing now is particularly atypical given how slow economic activity is. If and when the economy turns the corner, the composition of the corporate bond market will tend to be a follower, not a leader. So cap-ex will determine the way out, rather than the ability to get funds determining cap-ex, at least at this point in the business cycle.

MR. STOCKTON. But in terms of the changes that we’ve made in the forecast, that lower cost of capital is implicit in the decline in corporate bond yields and is an important factor that we built in here. Now, that doesn’t prevent capital spending from continuing to contract, but it’s contracting more slowly because the cost of capital is lower than it otherwise would have been. So it is leaving an imprint in our outlook.

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

CHAIRMAN BERNANKE. Other questions? Okay. If not, it's 4:00 p.m. I understand that coffee is ready. Why don't we take a 20-minute break. Thank you.

[Coffee break]

CHAIRMAN BERNANKE. Okay. We're ready to begin with our economic go-round. Let me start with President Rosengren. Eric, when you're ready.

MR. ROSENGREN. There have been some initial signs that the recession may be approaching a trough. It is too soon to tell whether the trough of the recession has truly been reached. Whenever we do reach the trough, the economic recovery is likely to be anemic. Consumers have experienced significant wealth loss despite the rebound in the stock market since March, and consumption is likely to be restrained by further job losses. The rising fraction of homeowners who find themselves underwater makes it difficult for them to move around, and unless job prospects improve, they are going to have a difficult time moving. These continued constraints in the recovery have influenced my forecast for the economy. I expect unemployment to peak somewhat higher than in the Greenbook and improvements in the labor market to be more gradual than in the Greenbook. The significant slack in the labor markets will continue to place a lot of downward pressure on inflation, and there remains a significant risk that deflation will not be avoided.

I continue to believe that the risks around this outlook remain on the downside. My primary concerns are that the reaction to the stress test is unpredictable. Contacts through the AMLF have noted that they are concerned that the stress test could lead to downgrades in asset-backed commercial paper to below the A1/P1, rendering them ineligible for the AMLF program. In addition, they note that money market funds have been more transparent with their public holdings so that there could be another surge in redemptions for money market funds that hold

paper and for banks that perform poorly on the stress test. Second, I have my own concerns about the results of the stress test. President Evans's question highlighted that institutions undergoing the stress test may behave more as if they are capital constrained than they would in the absence of the stress test. I share that concern. I think there is a very strong desire right now to avoid government capital infusions, and that desire seems to only be growing.

Even banks that do not have the mandatory convertible preferred (MCP) are likely to be affected. Banks outside the 19 banks undergoing the stress test will pursue the same conservative asset-producing strategies, concerned that the same criteria might be applied to them. Among the 19 that will not need the MCP, it may be rational to slow their own organic growth so that they can take advantage of asset sales or acquisition opportunities. If I am right and the structure of the stress-test program discourages the expansion of lending, all business lending, particularly commercial real estate lending, could be adversely affected. Contacts with insurance firms note that insurance regulators have not made clear how they will react to FASB rules on valuing illiquid assets. This uncertainty may cause insurance companies to further shrink their balance sheets at the same time that banks are doing the same thing. Thus, although there have been some positive signs on the economy since the last FOMC meeting, I remain concerned that the financial headwinds may not have abated yet. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. The Third District's economy remains very weak, and the Philadelphia staff's state and coincident indicators and leading indicators suggest continuing weakness, especially in the labor markets both in our District and in the nation as a whole. Although unemployment in our District is currently slightly below the national average, there is little reason to believe that we won't catch up at some point.

Our business outlook survey improved a bit in April, rising to minus 24.4 from a minus 35 in March, but obviously this is still a very low reading. The survey does offer some glimmers of hope—“green shoots,” as I guess is the wisdom now—and firms’ expectations about activities six months from now have improved considerably. They rose more than 20 points last month, to a plus 36.2, which is the highest reading since October 2007.

In general, our business contacts and our staff forecast suggest that the contraction will continue for a while in the District. One piece of anecdotal evidence that is worth noting, however, comes from one of our board members, who is the CEO of a leading manufacturer of residential and commercial flooring. For some time now he has been quite pessimistic, as you can imagine, and for the first time in well over a year he said something positive last week—that he is beginning to see a bottoming in the housing market. I take this as significant because he has been one of our most pessimistic commentators over the last year and a half—of course, understandably so. His information is consistent with other signs in the data of some stability beginning in the housing market, like the news of the upward revision of February new home sales that we received last Friday. Let’s hope that such welcome signs continue, but it is not a sure thing. I would also note that my contacts from the credit card industry have told me that non-auto consumer purchases for the month of April seem to be tracking at a fairly modest pace of plus 0.4 percent on a month-over-month basis. Though not a great number, it is encouraging that the stabilization in consumption and spending seems to be continuing.

So the Third District’s economy looks largely in line with the national economy. Now, I have never been one to go easily along with the crowd, and in that regard I continue to be somewhat more optimistic than President Rosengren about economic growth, particularly in the second half of this year and in the next year, and even more so than the Greenbook. However,

based on incoming data, I did revise down my GDP forecast for 2009 from the January forecast and revised upward the unemployment forecast. The revision reflects the fact that the contraction in the first quarter of this year seems to have been much steeper than I had anticipated in early January. I expect positive but modest growth in the second half, making the fourth-quarter-over-fourth-quarter change in real GDP modestly negative.

I have not changed my growth forecast for 2010 or 2011. I expect the economy to gain traction in 2010, picking up to about 3 percent in 2010 and settling into something closer to about 2.7 percent for the long-run trend in 2011. I see less of a growth rebound than many forecasts because I view the financial market shock with which we have been hit acting much like a negative and somewhat persistent productivity shock to the financial intermediation sector. One implication of that view is that the equilibrium real output has fallen, and thus the output gaps as usually measured would be overstated. The very weak labor market data during the first quarter have led me to revise up my path for the unemployment rate almost 1 percentage point throughout my forecast period.

Obviously there are risks to this forecast, and I share President Rosengren's concern about the fragility of the financial markets and the potential for the stress-test announcement to have unfavorable reactions. My downwardly revised projections are roughly balanced, but with perhaps more than the usual amount of uncertainty. Now I realize that my forecast is more optimistic than many, but I don't think we should discount the economic dynamics suggested by the historical data, even though I realize that the current episode might be a significant outlier from prior experiences. This view is shaped, in part, by forecasts from a New Keynesian DSGE forecasting model that we are developing, whose virtue is that it runs solely off historical correlations in the data as reflected both in its estimated parameters and in the model shock

processes. This type of model produces a forecast with significant recovery under way by the end of the year.

While I see somewhat more growth than the Greenbook, I also see less deflationary pressure than the Greenbook baseline and greater risk of higher inflation in the outyears. There are several reasons for this less optimistic view on inflation. First, my forecast relies more on forward-looking expectations of inflation compared with FRB/US, in which backward-looking elements are more heavily weighted in forming expectations. Second, I put less weight on output gaps as predictors of inflation as seems to be called for by the empirical estimates of New Keynesian Phillips curves. And third, I'm not convinced that the size of the output gap is nearly as big as suggested in the Greenbook for the reasons I have already mentioned regarding the nature of the shocks we faced. This perspective also seems appropriate and is consistent with the work of Orphanides and some others indicating the pitfalls of depending too much on output gap measures, which it shows cannot be reliably measured in real time. Indeed, Orphanides finds that the ex post revisions of output gaps are of the same order of magnitude as the output gap itself. It is particularly hard to measure gaps at business cycle turning points.

My skepticism of the empirical relevance and measurability of output gaps and my view that forward-looking expectations of economic agents dominate lead me to be highly suspicious of the Greenbook's inflation outlook. Indeed, if we look at inflation forecasts from a DSGE model, we find inflation rising over the forecast period, with headline PCE inflation rising above 3 percent in 2010 and exceeding 4 percent by 2012. Of course, I understand that the current situation and the nature of the current shocks suggest that sizable error bands are around the forecast. Still, I find that it is a useful exercise to examine these kinds of forecasts from alternative models, which are informative and helpful in thinking about the overall outlook.

Thus my view is that there is a growing risk of higher-than-desired inflation in the outyears of the forecast. With the funds rate at the zero bound and the concern for some near-term deflation, having inflation in the near term run a little higher than our long-term goal might be desirable. But I don't think that we should be willing to accept inflation outcomes above our goal once the expansion is well under way. I see that the longer-term inflation risk is tilted to the upside because I have grown more dubious of our ability to correctly time the withdrawal of the significant liquidity injections we have undertaken. Thus, for 2009 I am forecasting inflation in excess of 1 percent—1½ percent and rising through the forecast period. Now, this forecast is based on my assumption that, as the financial markets and conditions improve and housing markets stabilize, the FOMC will begin to contract its balance sheet and raise the funds rate. Appropriate monetary policy in this forecast requires that we begin raising the funds rate by the end of this year, certainly by early next year, and then continue to raise it throughout the forecast period. I have it reaching 3½ percent by the fourth quarter of 2011. Of course, this is a much steeper path than that in the Greenbook, which wouldn't be surprising since the Greenbook is zero from here on out; but it is consistent with my more optimistic forecast and my view that we cannot keep the funds rate at zero for the next three years and expect to achieve anything close to our inflation objective. My forecast would show considerably more acceleration if I assumed the Greenbook's baseline forecast. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Fisher.

MR. FISHER. Mr. Chairman, I want to start out talking about the Texas manufacturing report. As you know, I don't often talk about my District. [Laughter] Because we do produce a large share of total manufacturing goods in the United States, I want to point out that the report we released yesterday indicated pretty much what I am hearing from CEOs around the country.

That is, the indexes for production, capacity utilization, and volume of new orders and shipments edged upward for the second consecutive month, but our firms are reporting that job cuts exceed hires by a 10 to 1 margin, and 36 percent of the firms noted a decline in work hours. That said, the six-month outlook turned positive for the first time since June 2008, reflecting either wishful thinking or quite probably a sense that firms have battened down the hatches, have a better sense of their vulnerabilities, and have a better sense of visibility vis-à-vis the budgeting that they have now ratcheted down, and I think that may account for some of this optimism.

So I would not point to a silver lining. It is what I call a pewter lining, slightly better than it was before. That is confirmed by the comments I received from the CEOs to whom I talked after I got back from China—not very many, but hopefully indicative. But here are the lukewarm responses that I got in talking to some of them. For example, the head of the National Retail Federation, who sits on my board and runs JCPenney—I love this one: “I never thought flat would look so good” was his comment. [Laughter] “Still negative, but a slightly better tone.” From the CEO of Wal-Mart, seeing a little more discretionary spending, “It’s soft but not accelerating.” Shifting over to an entirely different sector, the CEO of Disney: “Early signs that deterioration is starting to slow.” And from the CEO of Exxon looking, as I like to do, at the chemicals, lubricants, asphalt, and other possible leading indicators—or at least indicators in terms of where the stimulus package may be hitting the road: “There weren’t any places where things got worse.” The only place where I could find that things had gotten worse was in the rails. Shipments are down 19 percent year to date. I think that reflects mainly coal and a shift to natural gas at these cheap prices for electricity consumption. I do note, if you look at the Edison Electric data through April 18, that weekly electricity output is still declining. So there may be

some green shoots, but I'd like to say that there are no sparks in terms of that kind of indicator activity.

I am going to focus the remainder of my remarks on the impressions gained from my trip from April 6 to April 22 to Tokyo, Singapore, Beijing, Shanghai, and Seoul, with a focus on China. First, I would like to preface it by saying that here at home all of the Bank Presidents have their views, but I'm not sure that's understood by the public. We always say it, but abroad nobody understands that distinction. As I told you, Mr. Chairman, before I left for the trip, I stuck to the party line, remembering the old definition that a diplomat is someone who is sent abroad to lie for their country. [Laughter] I was just extremely diplomatic, faithfully toed the line, and just basically listened very carefully. Here is what I heard.

With regard to Japan, we have seen their latest projections for the fiscal year that has started—down 3.1 percent following an equally awful year last year. In addition to visiting at length with the Commissioner of the FSA and Governor Shirakawa, as I mentioned earlier, and the staff, I met with several CEOs. I have been going there since '79. I would say that I had never seen them this pessimistic, I think largely because 22 percent of the economy is manufacturing and 40 percent of that is the auto industry in one form or another. And their demographics are awful. Industrial production is down 30 percent. The last time that happened—I think I may have mentioned this at the last meeting—was when Godzilla destroyed Tokyo in a movie in 1954. So there is definitely a mood of extreme pessimism in Japan, and I found that very discouraging.

The situation in Singapore is different. It is worse in terms of the short term. The first-quarter performance is down 19 percent for GDP. Ports are inactive. But Lee Kuan Yew and his successors are planning for tapping into China. And quickly to skip over to Korea—that was the

one place in which I didn't feel like a dartboard or receiver of spears in that the timeliness of our foreign exchange swap really was helpful, and they are most grateful. Their own ship seems to be floating a little better, and the economy seems to be stabilizing somewhat.

I want to focus on China. I met with the requisite what they call “barbarian handlers,” which includes Yi Gang and the CBRC Commissioner and the China Investment Corporation people. I also met with the nonbarbarian handlers, quite a few who are just purely internal, both in politics and in business. Here is the take-home: They reported 6.1 percent economic growth for the first quarter. I am always amazed at the alacrity with which they report their numbers. Kind of like Radar on MASH, they seem to know the number before the quarter is over. [Laughter] I did find out, Mr. Chairman, where the 8 percent came from. That is that Deng Xiaoping asked in 1980 what it would take to quadruple the economy by the year 2000, and the answer was 8 percent compounded. That is where the 8 percent comes from. It is reported all the way up—from the governors on up. But as far as this 6.1 percent figure, Nathan, if you look at their import–export activity for the first quarter, exports were down 18 percent, imports were down 70 percent on an arithmetic measured basis. And their electrical output is continuing to decline. It declined 5 percent in the first quarter—our fourth quarter and through the first quarter—and there just is no correlation currently, although it has been very high historically, between GDP growth and electricity consumption and output. But currently their electricity output is significantly lagging the numbers they are reporting for economic growth.

Second, with regard to the People's Bank of China and the CBRC, they reported that lending has focused on squeezing out excess capacity. That seems to be their objective, and this was repeated by several of the business leaders. They also feel that the budgeted amount they had planned for this calendar year all has been lent out in January and February, with some

excess floating into the securities markets, particularly the equity market. The concern that we picked up was, for the third quarter, fourth quarter, and into next year, that basically the thrust of the fiscal package and the guidance they have given for lending, which is extending beyond the formal banking system to the trust banks and these new private banks, is basically taking place currently and might not have the kind of follow-through that they hope to see.

The bottom line is that they cannot re-gear their economy very quickly. They are still dependent on the United States—significantly—and on Europe. That is 42 percent of their export activity. The bottom line of that is that their reserves will build more slowly. Still, they have no choice but to focus on U.S. dollars and Treasuries in terms of their investment and a small amount of mortgage-backed securities. They are seeking a greater role for their currency through their swap lines and through their trade invoicing in Hong Kong and some of the other major cities. So it is unremarkable that (a) they have deep concerns about the value of their Treasury debt and (b) fewer concerns about their agency holdings. I could have told them that we decided to purchase \$5 trillion in mortgage-backed securities. It didn't seem that it would have had much impact. But their concerns were constant. In every single meeting, in more than 40 meetings, they did not once fail to mention that they were concerned about our purchasing Treasuries and that they were skeptical about our ability to pull off a successful withdrawal of liquidity when the time comes.

I want to conclude by reading from the April 20 issue of the *China Daily*. The same article appeared in the *People's Daily* in Chinese. The former Vice Premier Zeng Peiyan said, “The U.S. Federal Reserve’s recent purchase of its Treasury bonds, which effectively prints new money, is likely to turn the budget deficit into inflation. That will lead to the depreciation of the U.S. dollar and cause a major loss in China’s foreign exchange reserves. And “the depreciation

of the dollar has become an inevitable historical trend.” So it is a frisky place, and they are booming relative to everybody else. But I basically would put that message under a subtitle of what I call “Malice in Wonderland.” [Laughter] They seem to be eager to underscore this particular issue in order to protect the value of their investment. But I didn’t, frankly, find anything different from the kind of concerns I hear expressed here at home and by others who are invested in Treasuries. I would say that basically China’s economy is not performing as well as it is reported, that they still are dependent on us, and that they confirm, Nathan, what you mentioned earlier, which is that the global economy may be picking up a bit but it still is in basically bad shape. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Yellen.

MS. YELLEN. Thank you, Mr. Chairman. It is a welcome relief to say for the first time in recent memory that the economic data since our last meeting have not been uniformly disappointing. The pace of contraction in aggregate spending appears to have slowed. Consumer spending and housing show welcome signs of stabilization. Overall, financial conditions have improved, and I have seen no indication that a dangerous deflationary dynamic has thus far taken hold. These are encouraging signs, but we should be careful not to overreact to developments that may yet prove to be will-o’-the-wisps.

The economic outlook remains fraught with peril. I am particularly concerned about the labor market, where the data are appalling. Not only has the unemployment rate risen 1.7 percentage points over the past four months, but recent readings on initial claims point to another dismal labor report for April. What is worse, the unemployment rate appears to understate the true magnitude of the labor market deterioration. For one thing, the incidence of permanent, as opposed to temporary, layoffs is high in comparison with past downturns.

Another, and probably more important, point is that there has been an unprecedented increase in involuntary part-time work. It far exceeds what would be expected given the rise in unemployment. My staff's analysis of CPS data confirms what we hear from our business contacts. The use of furloughs is widespread, and the surge in part-time work for economic reasons is broadly based across occupations. The associated reduction in hours is nontrivial. Our expectation is that the underemployment rate—a broad measure that adds individuals working part-time for economic reasons to those unemployed—will top the level reached in 1982 by year-end. We expect it to climb from its current rate of about 14½ percent to over 16 percent.

Turning to growth, my forecast is similar to that in the Greenbook. I expect the unemployment rate to peak at 9.6 percent late this year, a tad higher than the Greenbook, reflecting in part a somewhat more optimistic view of potential output growth compared with the Board staff's view. And, like the Greenbook, I anticipate a slow recovery in subsequent years, not the rapid V-shaped recovery we have frequently seen following deep recessions in the past.

Several factors underlie my view that the recovery will be slow. First, as I mentioned at our March meeting, I anticipate that the process of balance sheet repair that households are undergoing will result in subdued consumer spending for an extended period. Second, monetary policy both here and abroad is severely constrained by the zero lower bound on interest rates. Indeed, the optimal policy simulation indicates that we should lower the funds rate to negative 7½ percent, if that were feasible. Of course, it isn't, so we have turned to unconventional monetary policy tools, but these are imperfect substitutes for standard monetary policy. According to the Bluebook simulations, even if we more than double the large-scale asset purchases we have put into motion, we are nowhere near the desirable outcome in terms of

unemployment and inflation, which might be within reach if the zero bound were not constraining policy. In addition, the slow start of the TALF program raises doubts about whether this tool will provide a great deal of lift to the economy.

Third, I am concerned that the banking system is not really strong enough to expand credit in the manner that is required for a rapid economic rebound. The new capital that is slated for injection following the stress test should be helpful, but I think it will likely prove insufficient. Thanks to the Herculean efforts of staff members across the Federal Reserve System and other agencies, we now have a much clearer picture of the potential losses confronting our major banks. My personal interpretation of the data—and I think my assessment is consistent with market views as revealed in CDS spreads and the prices of bank shares—is that there remains a nontrivial probability that the existing common shareholders of a number of the major banks will be wiped out in an adverse economic scenario. This possibility diminishes their incentive to raise new capital to support additional lending. The problem is that the benefits of the extra capital would accrue disproportionately to debt holders and preferred shareholders, including the U.S. government, who are more senior in the capital structure. A separate problem is that banks with government capital appear heavily focused on getting out from the restrictions and stigma associated with the TARP. They insist that it is impossible to raise new private equity when it will sit side by side with money from the government, and this creates an incentive for them to devote their earnings to pay off TARP capital rather than to use the retained earnings to support increased lending.

I have enumerated several reasons why I project a sluggish recovery. Additionally, I remain concerned about downside risks. I am particularly concerned that another shoe may drop. Confidence in global financial markets is extremely fragile, and more bad news could trigger

another panic and run on the financial system. Unfortunately, the road ahead is littered with headlines of defaults, bankruptcies, and rising unemployment. While a big chunk of the losses associated with residential mortgages may have been realized already, we are only at the beginning of that process for consumer and commercial real estate loans, and the magnitude of the likely losses has risen dramatically as the economy has deteriorated. European banks face a similar situation with mounting losses and a sizable exposure to Eastern Europe. If another shoe drops, risk premiums are likely to spike again, and a further pullback in lending and spending seems likely. My staff has been examining the effects of tighter lending standards and measures of uncertainty on consumer spending. They find that these two factors explain a sizable share of the weakness in consumption growth in the second half of last year. In our baseline forecast, these negative influences are expected to dissipate over the next year, contributing to a revival of consumer spending. But a real risk is that further bad news could reverse this process. The false dawn scenario in the Greenbook illustrates one potential outcome.

Let me, finally, comment on inflation. I have been struck by the resilience in wages and core inflation despite sharply declining commodity prices and a dramatic increase in slack in the labor and goods markets. Measures of long-run inflation expectations have also been reasonably stable, and that is very reassuring. Looking forward, I expect inflation expectations to remain well anchored. I expect core inflation to dip down to 1½ percent this year and 1 percent next year, about ¼ percentage point above the Greenbook forecast and similar to the well-anchored expectations scenario reported in the Greenbook. Of course, given the very somber outlook for the global economy and the downside risks to this forecast, there is considerable chance of a more sizable fall in inflation, and such a scenario represents another downside risk to the outlook for economic activity as well.

In summary, despite the recent bits of good news, the economy remains in very bad shape. I expect at best a gradual recovery starting late this year, with core inflation remaining below my preferred 2 percent rate for the next few years, and I see substantial downside risk to that forecast for both economic activity and inflation.

CHAIRMAN BERNANKE. Thank you. President Lockhart.

MR. LOCKHART. Mr. Chairman, I agree with the staff assessment that—to use their words—hints of stabilization in the incoming data and some favorable financial developments since the time of the March meeting have occurred. But I also agree with their words that the evidence on this issue is by no means decisive. I see the situation as quite ambiguous.

I note a positive turn in business sentiment in my District. I think it is best described as a waning of extreme pessimism rather than growing optimism. Like President Fisher's CEO, one of my directors said that "flat is the new up." [Laughter] My retail contacts advise that the weak retail spending numbers of March are more characteristic of what to expect in the second quarter than the strengths seen in January and February. The nation's largest home improvement chain announced that March sales are down sharply year over year, and they are further marking down their modest sales projections for the balance of 2009.

Home sales have shown greater stability—around low levels, of course—in most parts of the Sixth District and are up year over year in Florida. By most accounts, new home inventories continue to creep lower. But there is still considerable downward pressure on prices, and builders do not anticipate any sustained increase in construction activity anytime soon. A large backlog of foreclosures and other home inventory is likely to enter the pipeline soon. A comment on condominiums, which represent a significant portion of my District's real estate market: They are under increasing pressure. That pressure has been exacerbated by the fragile

financial condition of homeowner associations, further distancing some otherwise creditworthy buyers from access to adequate credit. In addition, serious concerns continue to be expressed about commercial real estate. One contact said that there is almost no financing available. Even after accounting for weakening fundamentals, this source indicated that there is a serious lack of liquidity and predicted that commercial real estate will put major stress on financial institutions. On balance, the attitude that the economy would bump along the bottom for some time is common among my business contacts and continues to be a factor affecting my outlook.

The forecast I submitted is similar in some respects to President Yellen's. It is similar to the Greenbook over the balance of the year. Although I, too, see a recovery under way toward the end of the year, I expect that the expansion will be considerably slower than in the Greenbook. In my view, a slow restoration of credit market function, constrained consumer activity, and lingering economic uncertainty that restrains investment spending are likely to retard the recovery process.

The general perception of improving financial and credit markets presented in the Greenbook was supported by my financial market contacts. Like the Greenbook, I am hearing positive reports of improved access to capital markets for investment-grade nonfinancial corporations, and this has extended down to triple-B firms as well as some improvement in the high-yield and convertible bond markets. But my contacts continue to describe financial markets as quite fragile. As President Rosengren commented on extensively, the bank stress tests are, unsurprisingly, seen as a critical event, and opinions on the subject were varied. One contact predicted that the results are likely to be quite contentious and disruptive. In contrast, another argued that tough and aggressive tests would be a positive sign that problems are being confronted. Concern was also expressed in some of these conversations about the state of the

insurance sector. The insurance sector is more than triple the size of the investment banking sector, which in many respects was the source of some of our problems, and the view was expressed that the sector could deteriorate further if capital restrictions begin to bite.

As to the restoration of the financial markets, we did a poll of some of our directors regarding the TALF, which they said was generating very little interest. They cited a lack of demand from borrowers, insufficient detail about the program, uncertainty over future business conditions, and some community banks saying that the minimum of \$10 million was too steep to participate.

Regarding the balance of risks, my assessment of the risk to economic growth remains weighted to the downside. However, I have revised my assessment of the risk to inflation to being broadly balanced. Consistent with the ambiguous state of the outlook at this juncture, I remain concerned about and attentive to deflation risk while recognizing that our various actions to grow the balance sheet may stoke inflation expectations and bear upside inflation risk. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. The Eighth District economy, like the national economy, is mired in recession. I think it is somewhat less severe than some other areas, but it is still a very sharp recession. One winner in the District, and in the nation, is Wal-Mart, which has benefited from trade-down by consumers during the recession. This has also mitigated some problems in an otherwise overbuilt northwest Arkansas. Some contacts—not all, not even most—see very tentative signs of a bottoming out. But at least one contact who has been very pessimistic—this is like President Plosser’s contact—felt that sales volume and revenue numbers had flattened out and that, therefore, the firm had found the bottom. More

important, this particular CEO was actually acting on that idea going forward and developing business strategies based on the idea that they were at the bottom. That is in the transportation industry.

Nationally, this is one of the worst recessions in the postwar era, according to a number of metrics. My judgment is that, at this point, we will just need to have more data before we can see what is going to happen here. I am not particularly convinced that we have seen signs of bottoming out. Turning points are notoriously hard to predict. You could easily turn down again, given the situation that we are in. As President Yellen has stressed, we are susceptible to further shocks from unknown quarters. In my view, we have lots of issues that are really not resolved at this point, especially the financial market turmoil but also issues in the auto sector and the prospects for global recovery.

Measures of financial market stress are showing only modest improvement, and that is relative to very high peaks, so I would not find this very convincing. If we were seeing these kinds of numbers before the crisis began, we'd be saying that these are horrible numbers. So it is only modest improvement relative to a very bad situation. Time has not been a healer for financial markets. If you would have told me at the beginning, in August 2007, that these would still be lingering this long, I would have been very surprised. I would have expected them to heal.

The FRB/US model is probably not a good guide for policymaking in this environment. I base this on the brilliant figure provided in the memo by Robert Tetlow and Peter Tulip. It is their figure 1, which shows 90 percent confidence intervals for key forecast variables as of June 2007. No doubt, many of you read it. Actual events have far outstripped these measures of uncertainty, so we are way outside the confidence bands that were put around forecasts at that

time except for inflation, and my interpretation of that is that we are quasi-inflation targeting and inflation stays close to the target. The memo does a great job of summarizing issues about thinking about uncertainty in our models. We often talk about uncertainty around the table, but it is hard to internalize the extent to which it is true and what the magnitudes really are.

One way to think about how much uncertainty we face is to consider not just what has happened in the United States in the last 20 years or even the last 4 years but to consider what happens sometimes in foreign economies. You have lots of experiences internationally—many different countries, many different times and places, and many different policies that have been pursued, some of them with disastrous effects. Of course, we always say, “Well, those are foreign countries. That didn’t happen here.” But getting a range of experience and a range of the kinds of things that can happen in what is a very explosive situation that is marked by panics, runs, and huge expectational effects might give you a better idea of the kinds of outcomes that might materialize going forward and how much uncertainty is really out there, as opposed to what has happened just in the United States over a relatively benign period until recently.

We know that macro expectations are critical for the behavior of the economy. This is probably not the FRB/US model’s strong suit. The model is great at tracking the evolution of the U.S. economy in ordinary, relatively tranquil circumstances. It is not designed to capture the types of dramatic global signaling effects that we have witnessed during the last nine months. So I would downplay the predictions from the model at this juncture, and I think implicitly we all say that. I think that is also the recommendation of the staff—if you work with the model every day, you understand what the limitations are, where the assumptions are, and what other kinds of effects are not part of the design of the model.

I just want to mention the memo by Eileen Mauskopf and Jae Sim, which I thought was also quite good. They also stressed the uncertainty about their estimates, which is certainly dramatic. But at the same time, this memo begins to lay out the ideas about an optimal plan for the Committee and for monetary policy going forward. Whatever policies we decide on, we do need a reason that we think a particular path is the optimal one. As I have said before, I would like to get away from the one-time announcements that tend to surprise the market. When the market is surprised by what we do, that is not necessarily a very good sign. That is a sign that they are not understanding what we are up to, and that they are surprised at the time that the announcement is made. That is not usually a signal that the policy is close to optimal. Current policy in the United States is trading heavily on U.S. credibility. If we were a small developing country pursuing our current policies, I do not think we could get away with it. Expectations of inflation would rise rapidly, in my opinion. So this shows how much credibility and expectations will influence U.S. outcomes going forward. We are leaning very hard on this aspect, and the rest of the world is counting on our credibility.

Our models are not good at dealing with these issues. The model, as I said before, is designed to track in tranquil times. If we push too hard, we may again get surprised by outcomes that are not potential outcomes that the model can describe. One possibility would be a sharp rise in longer-term Treasury yields, such as that which the Chinese officials described to President Fisher.

I am concerned at this juncture about the potential for large mistakes. We have an output gap, which is yawning by traditional measures. However, like President Plosser, I would emphasize the New Keynesian concept of an output gap, which is probably far smaller. The New Keynesian model is the leading theory on the table today in academia. In it, the economy

has to react to a very large and very real shock. The gap is then not the difference between what happens on average and actual output but the difference between a flexible price concept of output and the actual output that you get on sticky prices. That gap is likely to be much smaller than what is described in our FRB/US model, and this has the potential, at this juncture, to be a huge policy error.

If you consider the description by Athanasios Orphanides, the rise of inflation during the 1970s was all based on poor estimation of output gaps and maybe poor concepts of output gaps. I think it is a clear and very pronounced risk in the current circumstances. If you think that the economy had to react to this real shock and then the flexible price level of output is a little different from the sticky price level of output, that's your output gap. Otherwise, you think that the output gap is way up here and so it is very different. A key medium-term risk for the Committee is that we think about that concept in the right way.

I will finish up with a few comments on the balance sheet. I have advocated splitting the balance sheet into two components, and much of the analysis is doing that in various ways. There is a lot more discussion in terms of seeing certain programs as transitory, lender-of-last-resort programs, so-called liquidity programs, as opposed to the persistent outright purchase programs of MBS, Treasuries, and agency debt. One idea I would have going forward for the lender-of-last-resort programs, one thing the Committee and the Board could consider, is trying to price those programs so that they are all backstops. This means that especially the TAF, the CPFF, and the swaps would all continue to exist, but we would arrange the pricing to make them just outside what would be available through market channels. I am not sure exactly how this could be done, but I think it could be done. My sense is that we are closer to that right now than we have been in the last nine months. If we could do that, you could take the volumes in those

programs down to zero, but the programs would remain in place with the backstop pricing in case financial market turmoil again intensifies. This would provide the benefits of these programs without clouding up the balance sheet with large volume, which might be helpful for monetary policy going forward. It is close to what a lot of people have talked about here—that the programs would fade away. But we could make them fade away by doing the pricing in just the right way, so that they would be backstops, but they would not have much volume in them.

Thank you.

CHAIRMAN BERNANKE. Thank you. President Evans.

MR. EVANS. Thank you, Mr. Chairman. Much as President Yellen said, I think the best news today seems to be that, for once, the forecast has not deteriorated between FOMC meetings. In fact, looking at, in the Greenbook, the evolution of the staff forecast, this is about the only noticeable time that the forecast has improved in the past year. So thanks very much, Dave and your staff, for that. [Laughter]

President Bullard just made a number of very interesting and stimulating comments, and I want to take just a slight exception. I thought that the rap on FRB/US was a bit too tough on the forecast. As I understand it, it is really more the Greenbook. I agree with you that you have to know what you are trying to use the model for—the question that is being asked. But I am hard-pressed to think of any model that would predict well during this period. I think that these models are helpful for verifying our intuition in a disciplined fashion in response to a number of these issues. You pointed out that the Mauskopf–Sim paper was useful, and that used FRB/US as well. So I just wanted to mention that.

We have nudged up our forecast a bit, and there is not much distance between our projections and the Greenbook. The broad contours of that outlook seem consistent with what I

am hearing from my directors and other business contacts. They say that the pace of deterioration is slowing and report that the most dire scenarios now seem less likely. Some of them had been close to making some major structural cutbacks but are now postponing those plans in the hope that they can be avoided completely.

A couple of factors seem to underlie the modest improvement in the outlook of business people. One is that credit conditions are somewhat better. This is evident in the spreads and other data that we looked at earlier—the Greenbook’s financial factors indexes—and in the rebound in equity markets. Another factor is that, after all the cutting, the economy’s natural cyclical adjustment process is finally becoming evident. Inventories have been slashed, and although many firms say that they have more cutting to do, they are at least to the point where they can imagine having stocks under control. After that, they will need to increase production to keep up with demand. In addition, in sectors, such as housing, that have had the most excess capacity, falling prices may be finally helping to stabilize demand.

That said, the improvement in tone is a relative one. As President Bullard said, my conversations with business people are still dominated by reports of further declines in activity and extremely difficult business environments. Whereas previously they talked as if the bottom was unimaginably far in the future, now they can see faint signs of its emergence. I suppose in the Washington area this goes as green shoots. Perhaps in Minneapolis it is referred to as the spring thaw. In Chicago, the Cubs are playing baseball, and it won’t be long before they are thinking about next year. [Laughter] Anyway, nobody seems to think the bottom is here yet. While businesses feel that the risk may be lower, many still feel as though they are in a battle for survival, and they are acting accordingly. In our District, with autos and steel and heavily weighted toward manufacturing, that seems to be the case.

This all seems consistent with our forecast, which, like the Greenbook, projects further declines in output this spring before fiscal stimulus and the change in inventory dynamics lead to positive growth in the second half of the year. Absent another round of contracting credit conditions, this is a reasonable expectation. I hope these forecasts rely on modest credit market improvements and are not premised on outright rebounds in credit conditions. That seems less likely, especially given the commentary from Dave Stockton in the question and answer period.

I am not especially optimistic that the stress-test results and whatever public capital injections they necessitate will boost appreciably the supply of bank lending. After all, additional injections are insurance against higher possible losses. I worry that bankers will spend more time trying to right-size their balance sheet in order to repay their TARP money, and this has been mentioned by others as well. On the TALF, we are off to a slow start. There are fears of further government-imposed restrictions. Clearly, this is a useful backstop for some impaired ABS markets. It seems less likely to be a stimulus for robust expansion of aggregate demand, but less of a headwind is a plus at this point.

Our inflation forecast has not changed much. We have revised up 2009 a bit to reflect the incoming data, but we continue to see core PCE inflation coming in at about 1¼ percent in 2010 and 2011. The risks to the inflation outlook have not changed and continue to be significant in both directions, it seems. The large and persistent resource gaps justify some worry about more-marked disinflation, but it is not possible to speak in public and avoid hearing that inflation and inflation expectations are about to increase greatly because of the explosion of our balance sheet and concerns about monetizing the rising government debt. Perceptions of previous episodes, in which policy reversed course tentatively, slowly, and even late, haunt these critics; and issues like the Orphanides gap are also a possible reason for that concern. Everyone has carefully

discussed the need for a prudent exit strategy to avoid these risks, and I appreciate all the commentary about more discussion at our June meeting to look at our balance sheet and possible exit strategies. So there is little more that we can do on this score at the moment, but maintaining our current policy trajectory might help a bit, given the improved situation today. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. We can add to the statement, “Wait until next year.” [Laughter] President Pianalto.

MS. PIANALTO. Thank you, Mr. Chairman. During the intermeeting period, I heard from an encouraging number of contacts that business conditions were showing some initial signs of stabilizing at very low levels. Relatively large companies with deep pockets and access to credit seem prepared to wait out the recession, although many have to make some painful adjustments. Others, especially small businesses, worry openly about running out of cash and time. Some employers are still considering reductions in staffing, and it is rare to find companies engaged in any net hiring. Even hospitals, which are traditionally very stable employers, have been reducing staff where possible in response to declines in demand. Public-sector and nonprofit employment continues to be under pressure as well. Although most of the employment declines we are observing result from cyclical forces, I think that more than the usual share of employment losses also stem from structural factors. After reviewing the declining pattern of job openings reported in the JOLTS data, as well as the relatively low levels of temporary layoffs that President Yellen commented on, my staff concludes that labor market reallocations are likely to be quite large and prolonged during this business cycle.

Regarding inflation, I appreciate the concern about a continuing deceleration in our price measures. However, I am struck by the number of people I speak with who worry that our policy

actions will cause inflation to accelerate in the future. In fact, the people who worry about accelerating inflation far outnumber those who express concerns about future deflation. So I am not overly concerned at this point about deteriorating inflation expectations. My view is that, with clear communication about our inflation objectives, our large-scale asset purchase will damp the decline of long-term inflation expectations, something that the Reifschneider–Roberts memo tells us is not captured in FRB/US. In my projection, core PCE inflation remains in the range of 1 percent to 1½ percent through 2011, whereas in the Greenbook baseline, inflation falls below 1 percent.

The anecdotal information that we collected, along with the data that we received, hasn't led me to make any material changes to my outlook for employment and output since our March meeting. My current output projection has some differences in timing of the recovery compared with the Greenbook baseline; however, I don't consider them to be material. My forecast for the unemployment rate does deviate more substantially from the Greenbook as a result of my interpretation of the persistent weakness that we are seeing in labor markets. My baseline projection has more labor reallocation taking place than the Greenbook does, and that drives my forecast for unemployment to peak at a bit over 10 percent before it begins to decline. The additional labor reallocation embedded in my outlook is another factor that puts my core inflation forecast on a higher path than that in the Greenbook. That is, I see a somewhat smaller output gap than the Greenbook does because I see a somewhat lower level of potential output in my projection coming from the labor market reallocations that I commented on.

It goes without saying that the level of uncertainty around my projection is unusually great, and there are many risk factors that could render it inaccurate. One of the risks that looms large in my mind—and it has already been mentioned by several others around the table today—

is that announcing the results of the stress test could add to the fragility of the banking system, and it could result in a further pullback in bank lending, as others have commented. At least that was the gut reaction I got from the bankers that I talked to as I was presenting the preliminary results of the test. I hope that we will fully consider these concerns as we decide what information to release publicly. Many of us are on record as saying that, in order to restore confidence in the banking system, we have to see private capital go back into that system. I am concerned that announcing that a majority of the 19 bank holding companies need additional capital and that the additional capital can come from the government is going to scare private investors away. So, on balance, I regard the risk to my outlook for both output and inflation to be weighted to the downside, especially taking into consideration some of the announcement effect of our stress test. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. A bit of a shift in our District information is discernible over the last month or two. First, the quantitative information. Our Fifth District manufacturing survey, which you will recall is released a few days later than the New York and Philadelphia indexes, but covers more manufacturing activity than both of those indexes combined— [Laughter]

MR. FISHER. But not as much as my District.

MR. LACKER. I believe more than the Dallas District as well. The survey has moved sharply back to neutral over the last two months from the exceptionally negative readings we were seeing earlier, and the shipments and orders components have increased from around minus 50 in February to around zero now. Interestingly, the six-months-ahead expectation measures for shipments and orders are solidly in positive territory, but the index for capital

expenditures remains negative, suggesting that excess capacity will be restraining business investment for a while. So far we have not seen similar moves in our service sector survey. Overall our surveys suggest a bottoming out in goods production but continued decline in services.

Qualitative information from our directors and other contacts also suggests a shift in tone from uniformly dismal to mixed. Some directors see signs of life for building lot transactions in some markets—North Carolina and central Maryland were mentioned. There are scattered reports of an increase in residential real estate traffic, although contacts are not yet saying that this has translated into increased sales. Even though this may just be the seasonal pickup you'd normally expect, people seem to be treating a normal seasonal pickup in real estate traffic as positive news, given the experience of the past few years.

The Fifth District hospitality sector seems to have been hurt by a fear of adverse publicity. One director whose firm stages trade shows says that “fun” appears to be the new F word. [Laughter] A contact who runs a resort on the South Carolina coast reports corporations canceling bookings for which they have already paid in full. People apparently don't want to risk the bad publicity of showing up, which is puzzling because critics presumably object to the expenditure not the utility derived. [Laughter] In West Virginia, the coal industry is described as somewhat shell-shocked because of falling coal prices, although drilling rigs from western states have been moving east to take advantage of increased drilling activity in the Marcellus shale formation.

At the national level, there have been some signals consistent with a business cycle trough sometime in the middle of the year, I think. I put the tentative signs of stabilization in the housing sector chief among these since the return of some confidence on that front seems

important for restoring a broader willingness by households to resume discretionary spending. Of course, we have been fooled by hints of housing market bottoms before. So it is not hard for me to curb my enthusiasm. Still, the recent consumer spending numbers also suggest that a broader household resilience may be emerging. Consumers seem to have been cutting back in response to the general erosion in their confidence about future income and wealth; and the fact that consumer spending was relatively stable in the first quarter, despite ending on a down note, might reflect some households looking through the recession toward a return to sustained growth. Similarly, I think the weakness in business spending has been driven mainly by a dearth of foreseeable profit opportunities as opposed to being held back by credit constraints. The tentative signs of stabilization on the durable goods front are welcome news, but I think it will take some evidence of a sustained improvement in consumer spending and, thus, revenue growth to bring business spending back to the table in a major way.

Regarding inflation, the stability of long-term expectations has been notable and stands in contrast to the Greenbook's forecasted expectations that inflation will drift steadily downward over the next few years. Personally, my outlook for inflation expectations is centered near 2 percent. I think the inherent difficulties in projecting inflation expectations are significant, but there's also at least as much of a chance that they will increase significantly during the recovery rather than decrease. I continue to worry about how we are going to know whether we are doing enough, too little, or too much and how we are going to know when to begin unwinding the expansion of our balance sheet. It seems like a daunting problem for us. My sense is that credit spreads are going to be too ambiguous to act on, and I am leery of taking too much comfort from Japan's experience. So I believe we could use a better understanding of the effect of our large reserve balances on the banking system.

Finally, Mr. Chairman, down in North Carolina the bankers are distributing these lapel pins. They're little round green things and they say "EGBAR." Now I am not going to be able to do justice to a North Carolina drawl, but it comes out something like this: "Everything's going to be all right." [Laughter] I don't know whether they believe it or whether they just want their customers to believe it. But in any event, they don't say when it's going to be all right, so I'm not sure that we should put much faith in this either. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Any charge for the pins?

MR. LACKER. I got this one for free, and that means it is worth less than \$20.

[Laughter]

CHAIRMAN BERNANKE. Your drawl will be reflected in the transcript. [Laughter]
President Stern.

MR. STERN. Thank you, Mr. Chairman. Well, I'm in substantial agreement with the Greenbook forecast, for the next four or five quarters anyway. As several people have noted, certainly there is a lot of uncertainty around, but it seems to me that there is a reasonable chance that recovery will get under way around midyear—June, July, or thereabouts. I think it is worth bearing in mind that, if that happens, we probably won't discern it for at least several months thereafter—August, September, or October—partially because of data flows and partially because, as I expect, initially the recovery will be quite modest, which means that the incoming data are going to be mixed at best and it will be possible to read some of it positively and some of it negatively. I think that this level of uncertainty is simply going to be part of what we're going to experience.

I do agree, as I said earlier, that the recovery will initially be quite modest. President Yellen and others have done a good job of elucidating the reasons for that. Nevertheless, I didn't

really revise my forecast from January, so I have almost all the same numbers. If I were going to revise the forecast, I'd probably revise it up rather than down at this point—not by a lot and not trying to get to the typical recovery alternative in the Greenbook, which would be extraordinary if the economy produced something like that. But it does seem to me that the variety of data that have come in have been better than anticipated, including improvement in credit market conditions. None of that may turn out to be durable, but on the other hand, I think we have been anticipating that some of this was going to improve and some healing would occur over time.

I guess I don't expect the stress test to lead to an increase in bank lending. I thought the stress test was trying to address uncertainty about the conditions of banks, and I think it's going to come down to whether the report is credible with regard to two large and very sick institutions. But I don't think the rest of it is going to matter very much. It is really whether the numbers associated with those institutions strike people in the financial markets as sensible, appropriate, and so forth. If they do, I think the stress test will probably have helped. If not, I think we're going to have potential chaos—I guess that's the way I would put it.

As far as inflation goes, I expect inflation to be low, but certainly the second-most-asked question I get when I'm out talking to people is, "Aren't we going to see a burst of inflation with the expansion in your balance sheet and with the stance of fiscal policy?" So it seems to me that discussing exit strategies, sterilization, and so forth in June is going to be important, and communicating with the public about this is going to be important, recognizing that we might have a bit of a timing issue on our hands. I guess the way that I would put it is that we first want to make sure the fire is out. Thank you.

CHAIRMAN BERNANKE. Thank you. President Hoenig.

MR. HOENIG. Let me start with the District, and I'll be brief. I have talked to several dozen people in the region, and I have not had a single one tell me that they think things are improving. But what I do hear is that things are not getting any worse except for a couple of areas. One of those areas is natural gas production, which if those rigs are moving your way, I'd look at them pretty carefully before I put them in production, given the price of natural gas right now. The other is commercial real estate. There is a lot of angst about commercial real estate in the region. It is under pressure. Projects are on hold and have been stopped. A lot of banks are holding this stuff, and a lot of them have pretty heavy concentrations of it, which gives me pause. On the other hand, when they say things are not getting worse, there are some indications of manufacturing beginning to stabilize, some retail sales beginning to stabilize, and even some of the housing, even though it is down from a year ago, in the last couple of months has shown some stability as well in the region.

About the national outlook—I think that, as we go through the rest of this year and into next year, we will see things improve. There are a couple of positive forces and then one thing that I consider a real negative. The two positives are that, as we see inventories and values adjust, people then will begin to move forward. Complementing that is the fact that the stimulus package is starting to flow. We're seeing a lot of highway projects really getting going, especially in our region. The one thing that I find interesting is the value of subsidies because, as the ethanol industry is collapsing, we are now in the wind tunnel—seeing enormous amounts of investment on wind energy being placed there. There is no way to get it out yet, but they are building these towers by the thousands, and that is adding a lot of activity in the rural areas, particularly of our region.

The negative is the credit and banking conditions. There is a fair amount of capital in these banks, but when you see their asset issues and their uncertainty around those assets, they are conserving that capital and they are holding back on lending. Another part of this is, as we have introduced each new plan—whether it was the PPIP or whatever—money has gone to the sidelines to see how that is going to evolve. That has made things slower than they might have otherwise been, and I think we need to be aware of that.

As you boil all of this down, I think the stimulus will be a big plus as we move through this year and into next. As we stabilize, there's a real upside, but the credit market banking level is a big risk going forward. I don't think we've begun at all to address the commercial real estate problems that are just wreaking havoc. Thank you.

CHAIRMAN BERNANKE. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Mr. Chairman. I think the economy is going to do somewhat better over the next few months and, I hope, quarters. A big swing in the rate of inventory liquidation is certainly going to help, and we have seen in the past that it can be very, very powerful quarter to quarter. A good example is the fourth quarter of 2001 to the first quarter of 2002—which was probably the worst forecast I ever made in my life—but I'm not going to be very impressed by that for several reasons.

First, we still do not have the banking system on a sound footing, and that's pretty damning, frankly, 20 months into this crisis. If we can do a good job with the supervisory capital assessment program and get more capital into the banking system, then we have a fighting chance. In this regard, I think it is important for us all to be on message about this. Next week is going to be really, really important. The announcement will generate lots of criticism: The stress test is not severe enough, the estimated losses are too low, and so on. I believe that we

should emphasize three points. First, what is the purpose of the exercise? To get more capital into the banking system and thereby to make the adverse outcome less likely. It is important not to get lost in the fine print. Second, the adverse scenario that was assumed is still considerably worse than the base forecast; and in the adverse scenario, banks would still be well capitalized. We need to emphasize that. Third, in assessing the loss figures, we need to make it clear that the losses that matter for commercial banks are credit losses, not liquidation losses. Because banks have deposits, they can hold their assets to maturity. This means that the liquidation value is mostly irrelevant. This is particularly important in the current environment, of course, because the illiquidity discount is unusually high. This makes the value of the assets to those, such as banks, that are leveraged and have deposits that can fund and hold those assets much greater than the value of the assets to those, such as hedge funds, that have difficulties in this environment obtaining leverage.

The second thing that I would stress about the economic outlook is that a lot of pain is still ahead, and I'll echo some of President Hoenig's comments. Commercial mortgages and highly leveraged loans appear particularly vulnerable. Commercial mortgages are suffering from a double whammy—a higher capitalization rate on mortgages and lower income. This is pushing down commercial real estate values sharply. The John Hancock Tower sold for half the price at which it was purchased in 2005, and that's considered a prime property rather than a not very attractive property. I don't see this ending very quickly. On the corporate side, highly leveraged businesses are going to have trouble refinancing for the same reason. The rise in the risk-adjusted return demanded by investors will significantly drive down the value of the underlying enterprises. For many private equity deals, covenant-lite loans and PIK toggles will delay the

day of reckoning, but that just means that the resulting hole that must be filled will be bigger as a consequence.

The third thing I'd say on the economy is that the big news is the large adjustment that households are going to have to make in terms of deleveraging and the offsetting shift that we're going to have to see in foreign economies toward stimulating domestic demand and away from exports. That's going to take quite a bit of time, and to my mind that process is just starting. This is one more reason that I think the risks to the economic outlook, even expecting that GDP growth may resume by the second half of this year, are still very much to the downside.

CHAIRMAN BERNANKE. Thank you. Governor Kohn.

MR. KOHN. Thank you, Mr. Chairman. Like the others, I'm encouraged by some of the signs of stability in household spending and consumption and of housing demand leveling out in the first quarter, albeit at very low levels. I think it is an especially hopeful sign that the stability occurred when jobs and production were declining very rapidly, and at least for the first two months of the quarter, the financial markets were getting worse, not better. Also encouraging, as others have pointed out, is the stability and slight improvement in financial conditions over the last month or so. I think perceptions that the downside risks have abated are in the financial markets. This is a necessary condition for economic recovery and is indicative that confidence has stabilized and may be beginning to increase. You see a bit of this in household consumer confidence in the past month or two.

Production is below even the weak level of demand; so as long as demand doesn't fall off further, conditions are in place for working through the inventory cycles in goods and houses with a gradual rise in production as the negative inventory dynamics of the past few quarters ebb and reverse. And there are good reasons to think that final demand will continue to stabilize.

Consumption behavior in the first quarter does suggest perhaps a more gradual upward drift in the saving rate after a very sharp adjustment in the level of consumption in the second half of last year due to declining wealth, greater uncertainty, and very, very poor job prospects—so maybe a slower increase in the saving rate from here on out.

Housing demand is at frictional levels. Of course, I thought that several quarters ago, but maybe it really is at frictional levels now and is perhaps being bolstered by low prices and interest rates. I take some encouragement from the firming in commodity prices, which I think suggests that global weakness is beginning to abate somewhat. Certainly the conversations I had with G-20 emerging-market central bankers over the last weekend were that, like some of the anecdotes we're hearing around the table, they see less weakness and some signs of improvement and the commodity markets were an important sign of that. As consumption demand stabilizes, the decline in capital investment should abate as the capital stock comes in line with the lower level of sales. So I agree with the basic shape of the staff forecast for the next few quarters: a slower decline and then stability.

Still, I do think there are downside risks for the near term, especially from an accident in the financial sector. Signs of improvement are tentative. Financial markets are fragile. Lots of people have addressed the stress-test risk, and I think it's very, very large both for an accident in the near term, over the next week or two, and for damping. If confidence isn't restored through the injection of capital and banks get even more cautious about not wanting to convert the convertible preferred into government common, or if they have to take that convertible preferred, they're going to damp their lending. So I think there are near-term and long-term risks here. I agree with what the Vice Chairman said: The idea here was to build confidence. If we handle it right, I think it is possible; but the risks are huge.

Even though I see downside risks, I think they're smaller than I thought they were a meeting or two ago. The end of the recession is still a forecast, but at least we have some tentative evidence that the elements are falling into place. I also agree with the staff expectation that the subsequent recovery will be gradual, more gradual than in past recessions, with a large output gap persisting for some time. My reasons are the same that many others have cited. Financial repair will be slow. As President Bullard pointed out, borrowing rates, terms, and conditions for many private borrowers are still very tight, and we would have considered them very tight at any other time even if they have improved some. A return to more-normal financial markets and easier financial conditions will take time. The financial system is adjusting to reduced leverage and better liquidity protection, and that will be good in the long run. But that adjustment is going to take time, and it implies tight credit for a while. More intermediation is going to have to flow through banks, and banks will need to rebuild capital. Though the government capital might be helpful in that regard, it's not clear that it will be. And lenders are still worried about the economic outlook and credit losses, and I think that concern is likely to dissipate slowly.

As others have pointed out, household balance sheets also need repair. Saving rates will be high relative to recent history and could trend higher as households rebuild wealth. Confidence is likely to recover slowly after recent events. Animal-spirit-damped expectations will remain a restraint on spending. Businesses and households, given the shocks that they have been through, are likely to remain cautious.

I think the global character of the downturn also suggests that the upturn is going to be restrained. There are policy constraints on fiscal policy in lots of places because of concerns about long-term fiscal sustainability, and of course, monetary policy almost everywhere

including the United States is constrained by the zero lower bound. No country is really going to pull the others out of the recession, and I am concerned over the intermediate to the longer run about what is going to substitute for consumption. The U.S. household demand for houses and for goods and services has really been an engine of growth for the global economy, and it's not obvious to me where the substitute for that is going to come from. So I do think a slow, gradual recovery is the most likely outcome. I had something like the staff's forecast—a little faster at the end, but still quite slow.

The inflation implications of this are that inflation should continue to drift down. I think the gap is high and will be high for some time. That will put downward pressure on inflation, although inflation expectations are anchored and the downward drift should be limited. I agree with President Plosser and others that you can't really measure the output gap. It's a concept, not a thing you can ever measure, and it's risky to put a lot of weight on it. But I do think the gap is large enough right now, and the information we have from which we can infer what's going on suggests that it's still large. If you look at 12-month inflation rates—PCE, CPI—they are all drifting down, which is what you would kind of expect if you had an output gap, although the last three months were higher than we anticipated, so maybe you need to keep an eye on that. We don't have much in the way of compensation data. The last compensation data we had were for the fourth quarter. One measure—the productivity and cost measure—was kind of flat, had been flat through the year, and didn't show any trend; but the ECI, which is a measure on which we've put more emphasis in previous analyses, did show a distinct deceleration through the fourth quarter, which would suggest to me that there was an output gap. Average hourly earnings, which is a very flawed measure of labor costs, that we have through March, showed a very, very definite deceleration. So I think the price and wage data, imperfect as they are,

suggest that there is a considerable output gap putting downward pressure on increases in those things. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Warsh.

MR. WARSH. Thank you, Mr. Chairman. After the despair at our last meeting, we may have expected to find ourselves with locusts, floods, and plagues. [Laughter] So I suspect the swine flu pandemic and the leaked stress-test results do seem like veritable green shoots in comparison. [Laughter] May that be the ninth and last reference to green shoots today, unless my colleagues choose to reference that as well.

I think, as the Greenbook and Dave suggested, that the most significant change since the last time we met is in the tone, tenor, and level of financial markets. But I hesitate to take too much definitive comfort from these improvements and recognize, of course, that the financial markets and the real economy are relating to one another. But, again, a lot seems to be hinging on continued improvements in these markets. So let me talk first about financial market developments; second, briefly about financial firms and stress tests; third, about the economy; and, fourth, briefly about inflation.

First, on the financial market side, we have seen since the lows on March 9 a \$3 trillion addition to the net worth of U.S. households. Globally, the addition to net worth is probably around \$9 trillion. I tend to think that that is more constructive, more important to outcomes, than stimulus packages that we and others could have constructed. If that trend continues, then the Greenbook might end up looking calm in comparison, but I am probably not as bullish as that. I think that the change in net worth, the change in market cap, is indicative of principally an unwinding of some fear, an unwinding of some risk premium, and maybe a little better, the market's view of improved economic prospects. But the benefits of the equity market

improvements aren't confined to wealth. We see second-order improvements in confidence, even though it is at low levels. That is coming back slowly, but seemingly surely, to various measures of business confidence and consumer confidence. Again, if that trend holds, we will be in awfully good shape.

Let me look, after the equity markets, to a market that I haven't referenced for some time, which is the convertible market. The convertible markets are booming. Keep in mind, as Trish and others probably discussed previously, convertible markets are a very hot or a very cold market. The market right now is exceptionally hot. Why is that? I think it tells us something about investor preferences. Investors have seen markets move 20, 25, 30 percent in equity. They say, "Well, I want a bit of an equity appreciation." At the same time, they are still a little risk averse, so they want that downside protection, all of which is making the convertible market the market of choice. We see a range of companies, both high-quality names and lesser names, using the convertible market to raise meaningful capital. I would say that the pipelines in the convertible market are as large as they have been in eighteen months or two years, and those markets are robust, even in this upcoming week.

I think the Greenbook talked in detail about the fixed-income markets, which continue to show some improvement, making all-in financing costs lower than I think many, including myself, would have expected them to have been when we last met. I also see renewed interest in financial institutions issuing non-TLGP paper, which I think is a good sign, first, to try to prove that they are okay, different, and better, but also they are starting to feel more comfortable that the government backstops won't be around forever, and they want to differentiate themselves.

With that, let me turn to financial firms and stress tests, my second point of focus. Prior to the stress-test results, we have seen a race by the relatively strong to access these markets.

The capital that Goldman Sachs raised some weeks ago was much discussed, and just this morning Northern Trust raised \$750 million of equity capital. After a greenshoe option is triggered by the underwriter, it will be something closer to \$900 million. Now, the book at Northern Trust—which markets perceive to be a relatively strong mix between a recurring revenue business and an old-fashioned bank but maybe still a bit more the former—was good, healthy, but not massively oversubscribed. I think they raised this capital at around \$50 a share, trading a couple of dollars higher going into the pricing this morning. That does tell me that there are markets—that is, there is demand for high-quality names, but it is not an insatiable demand. It is not massive. Given Northern Trust's success, we should feel that, if what we do is effective on the stress tests, the markets will be open for some, but not all, of the names that are seeking private capital. In addition, Northern Trust, Credit Suisse, and BB&T are in the market today raising debt at yield spreads that are remarkable—275 to 325 over 5-year and 10-year money. Again, this is very encouraging, probably more encouraging than I would have suspected at the last FOMC meeting.

Let me turn to the aptly named stress tests. Depending on execution, they could undermine some of the progress that is at the center of the improvements over the past several weeks. I say that because, historically, financial firms are a higher beta move on broader markets. They have tended to track the S&P historically, at least over the last 20 years, with higher peaks and lower valleys. But they tend to be related to it. In fact, in the last six weeks, bank stocks and financial firms generally have outperformed the broader markets. To the extent that the financial firms suffer, I would expect them to bring down a lot of firms—or at least bring down their market capital—that are unrelated to the banking business. I will highlight several key issues on the stress tests, just asking the questions, but I think we have all debated them at

some length. One, will regulators or markets be the predominant determinants of the fate of these 19 firms? Two, will the firms in need of capital have six months to raise private capital or six days? Third, is the specter of government capital confidence inducing or panic inducing? Fourth, and probably most meaningful for the broader economy, what is the resulting competitive landscape, and what is the impact of that landscape on the real economy?

With that, let me turn to a third point, which is the real economy itself. I am probably a little more anxious than the Greenbook about the economy and would leave in some of Dave's and the team's add factors that made the judgmental forecast a little darker than model predictions for just a bit longer because of the uncertainty that is in store for us over the next few weeks. In addition, I would expect the cap-ex downside risks to be greater than the Greenbook estimates. I would expect the turn in inventories from liquidation to modest growth to perhaps help the arithmetic of second-half growth but provide very little comfort beyond that. I would also expect less improvement in PCE than the Greenbook, but I will have to admit that it is hard to judge. Over the long term, I continue to expect weaker GDP than the Greenbook and higher unemployment, and I suspect that is mostly because I expect a higher NAIRU and lower potential GDP in the outyears for a whole range of reasons, but maybe most simply said, because articles of faith of how this economy works have been up-ended or are in the process of being undermined. So I am just not sure how quickly we get back to trend or whether the old trend is at all indicative of the new.

On foreign growth, I think that the forecast from Nathan and his team, though encouraging, likely overstates the return of these non-U.S. economies to growth. Whatever the path is for the United States, I expect the path for the advanced foreign economies overseas to be slower and the return to be less pronounced. In the back of my mind, the problems facing the

United Kingdom, Japan, and some other countries—and I hesitate to think that we would ever want to be trading places or seats with them—are fundamental and much harder to get out of after a period like this.

Finally, on inflation, I continue to be more worried about upside risks to inflation than downside risks. As a result, I would expect the removal of the extraordinary policy accommodation to be at a rate faster than the Greenbook suggests and be at slower-than-current market expectations. And I expect that core inflation will remain somewhat higher than in the Greenbook over the forecast period. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Duke.

MS. DUKE. Thank you, Mr. Chairman. In looking at the false dawn scenario, I was sobered by the degree to which the Greenbook forecast depends on the reduction in financial sector turmoil. And I share President Rosengren's concern about the potential destabilization resulting from the announcement of the stress-test results. I am, similarly, skeptical that government capital would spur any additional lending. Instead, it seems that lending is going to be constrained by the private capital positions, which will then be evaluated in light of capital standards that have been implied by the stress tests. I suspect that the most important confidence-building aspect of the stress tests may be actually the degree to which government stands ready to provide absolute support in terms of both capital and liquidity to firms in case there is a destabilizing event.

In my talking to the banks that were subject to the stress test and were awaiting their results, they reported that they were surrounded by lawyers and that they had developed communication plans A, B, and C for all of their expected scenarios in terms of the results. I emphasize communication plans—no capital plans. The reason for this is that they simply did

not believe that they had any ability to raise private capital alongside government capital, and so that exercise seemed futile. I was struck by one banker to whom I talked who went on at length about his preparations for his stress-test results, to the point that, when I hung up, I went back and checked and determined that, no, he was not covered by the stress test. [Laughter] So I called him back and said, “You know you are not covered by this.” And he said, “I know, but we will be.” He was absolutely convinced and had been encouraged in that belief by his regulators.

I did talk to one who was not going to need additional capital, who was getting a strong amount of interest from private equity to repay his government capital but felt as though he would really prefer to wait about six months to separate the stress-test results from the original TARP capital injections. Also, there were some concerns as to what might unfold in the next six months. I don't think that is unique to him. I think that a number of companies, although they may have talked about wanting to get out of the original capital, are going to be a little less anxious than they might appear. One bank that did give back the TARP capital has seen no improvement in its stock price and no discernible improvement anywhere else. However, I heard from a smaller bank that did give back the capital, and the contact reported much rejoicing in his community, a surge in new customers, and congratulations all around. But the scariest part is that his mother cried in joy and pride when he returned his government capital. I swear. [Laughter]

The amount of uncertainty about the rules and the changing of the rules are certainly limiting the effectiveness of the TARP, the TLGP, and the PPIP. A number of firms reported that they were trying to work down their government funding but that private funding is still scarce, and no matter who their primary regulator is right now, they are dealing with multiple

regulators for multiple programs, all with differing priorities and requirements—the FDIC for the TLGP, the Fed for the TAF, and the Treasury for the TARP. They also said that they can't rely on traditional correspondents. They have been jerked around by the Home Loan Banks. As one bank put it, at least the Fed won't redline Michigan. [Laughter]

OTTI rules have made a difference for some of the banks. One of them reported 44 basis points on tier 1 capital, 17 basis points for first-quarter write-downs that would have occurred, and 27 basis points in the true-ups. So the OTTI has really made a substantial difference.

Earnings, obviously, were better than expected. There are record mortgage originations that are primarily refinance, but some reports of increasing purchase activity. Interestingly, Florida was reported to be 50/50 between refi and purchase, with the reason that the prices have dropped too much for refis to be able to take place and the low prices on foreclosures are actually attracting buyers. Mortgage income is probably sustainable through the year. Good trust and investment income. Loan pricing is much better than it has been historically; the deposit pricing pressure, which had been very strong in the fall, is easing a bit; and prices seem a bit more rational.

For smaller banks, the margins are down 100 to 160 basis points since the start of the easing, and all banks are worried about the special FDIC assessment. Demand is weak for new lending. They are pricing for risk. Term tightening is primarily in the higher loan-to-value. There is a big demand for floor plan lending. In fact, the SBA is trying to figure out how to be helpful, but the problem is that nobody has any expertise anymore. As the captives took over that business, the expertise atrophied in the other banks. The smaller banks are still seeing demand from large bank customers, but their ability to meet that demand is becoming more and more strained by their liquidity and capital availability. Deposit growth continues, although the

rate of growth seems to be slowing. Transaction accounts within deposits are down almost 10 percent, and overdraft income is down more than 12 percent.

Regarding credit quality, delinquencies are still growing, but they are actually more predictable and are coming up as models are predicting. The states that are heavily affected by the auto business are seeing bigger deterioration. The loans that are coming into collection at least now have something to work with. Severity is growing, although some report that home prices are stabilizing. In terms of nonperforming-loan levels, a couple of banks pointed out that the nonperforming level is not necessarily the best indicator of losses because consumer loans go from delinquent or even not delinquent to charge-off. Only the real estate loans go through the non-accrual process. Nonperformers are increasing even at those banks with low levels of problems. As one bank president put it, if the loan officer had actually looked at the property, he would never have made the loan. The traditional workout activity is going on, deciding which ones they can work with and which ones they need to dispose of. Non-accruals also are growing because of the length of time for judicial foreclosures. It now apparently takes 24 months to complete a foreclosure in the State of Florida because they are so backed up on judicial. It used to take 12 months; now it is up to 24. Then, some banks are holding their ORE for a better market.

I will focus a bit on commercial real estate and the extent to which the use of CMBS and the TALF might be helpful. Eighty percent of maturities in commercial real estate are held in banks, and the CMBS targeted by the TALF actually won't take out the construction loans and is likely to affect about 20 percent of the rest. As the Vice Chairman pointed out, vacancies are up, rents are down, and cap rates are up. Multifamily is holding up the best, then office. Retail is very weak, and hospitality properties are a disaster. Take-out commitments are being honored,

but there are no new commitments. So they are converting the maturities to a three-to-five-year mini-perm, but the appraisals are running 50 to 55 percent of those appraisals done even a year or two years ago. Once the appraisal comes in that low, it breaks the covenants, and then they have to request a paydown and actually put the loans on non-accrual. They are not necessarily moving to foreclosure. They said the Street will worry about the increase in the level of non-accruals, which makes it optically expensive. But they feel that over the long term they are much better served by waiting through this cycle in the real estate market and that the reduction in value in this cycle is not necessarily due to overbuilding but is actually due just to issues going on in the regular economy. The medium-risk properties are the ones that really need to come out of the system. One bank reported that 40 percent of non-accruals are SBA 504 program loans, which means that they are only 50 percent loan-to-value, because the next 40 percent is actually protected by SBA guarantees, but they still have to show them in non-accrual. They are also getting mixed signals from regulators on loans in process of collection. So as we look at issues with commercial real estate, we may be able to address some of this in the supervision and examination standards rather than necessarily trying to do anything specifically with those loans. And that is my report, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. While anchoring the last spot in the go-round has the disadvantage of addressing an audience that is weary, if not catatonic, [laughter] it does have the advantage of allowing me to endorse a consensus without having to repeat all of the reasoning that has generated it. So let me begin by agreeing with what I hear to be the prevailing view. First, the pace of decline in the economy has slowed significantly since our last meeting. Second, since our last meeting, we have seen some encouraging indications in the data,

but, Mr. Chairman, I have to say here that the one thing you may regret from your “60 Minutes” appearance is the use of this phrase. Third, there is considerable uncertainty whether these are green shoots promising blossoms to come or a school of red herring swimming across the sea of death. [Laughter]

Within this broadly shared frame of reference, I would make two observations. One, with an eye to history, relates to the uncertainty that I just noted. The other relates to the likely duration of a recovery period once the bottom has in fact been reached. As to history, we all know that serious recessions have their own idiosyncratic origins and run their own course. However, in light of the mildly hopeful data in the intermeeting period, I thought it useful to ask the question whether similar signs have in the past converged in what turned out to be a false dawn and, if so, whether we can distinguish between signs of a false dawn and signs of true recovery.

Looking at the last two serious economic downturns in the United States—the 1973–75 and the 1981–82 recessions—staff members from Dave Stockton’s division provided some interesting answers. First, in both instances there was indeed a period during which hopeful signs converged that in retrospect were not harbingers of imminent stabilization and recovery but were instead followed by further deterioration. In each case, housing starts, initial claims, PCE growth, industrial production, and equity markets all improved noticeably at approximately the same time. That is, the signs were even more uniformly tilted toward the upside than they are at present. Second, a review of Greenbooks from the relevant periods reveals that the staff interpreted these data as indicating the end of cyclical declines. Third, what we now know to be the actual beginnings of recovery, however, were characterized by improvements in these same indicators at a pace not unlike that which had been seen in the earlier false dawn. Needless to

say, two cases do not a pattern make. Moreover, further analysis of these and other examples might yield more finely grained conclusions. For the present, though, this modest inquiry helps explain and, indeed, excuse our collective low levels of assurance in our assessments of current conditions.

Let me now rehearse some reasons that I continue to tend toward the view that, even when a true turning point is reached, recovery may be much more gradual—even halting at times—than has been our experience with economic downturns since the Second World War. First, as noted in a number of recent studies, most recently Rogoff and Reinhart, economic downturns that begin with a financial crisis can be expected to be more painful and to have longer recovery periods than other serious recessions. Although it is very difficult to disaggregate the effects of reduced demand, asset value uncertainty, and capital impairment, it seems probable that this last factor is both important and unlikely to be remedied soon, the TARP notwithstanding. With some notable exceptions, improvements in credit markets still seem generally associated, directly or indirectly, with government support. Indeed, to a considerable extent, our financial institutions are all still fundamentally tethered to government guarantees or support.

Second, as I suggested at the last FOMC meeting, in an unusual number of industries, structural changes that were insipient even before the onset of the financial crisis, have been accelerated with the potential for extended negative effects on employment. At the same time, sources of financing for new businesses are likely to remain constrained for some time to come.

Third, as many of you have already noted, there are significant headwinds that may partially offset any positive momentum that develops. For example, again, as you have noted, it seems likely that the considerable damage to commercial real estate markets has only begun

working its way through the financial system, with attendant negative implications for the balance sheets of many regional banking organizations. A somewhat different example is suggested by the possibility that many foreign economies may be lagging the U.S. downturn. Particularly with respect to the euro area, lags in employment reduction, bank balance sheet repair, and other factors lead me to a somewhat more pessimistic view of economic performance in the coming quarters than was suggested in the Greenbook, whose alternative scenario of lower foreign economic growth produces materially negative effects on U.S. economic performance.

Fourth, and finally, the likely continued fragility of the economy makes it unusually vulnerable to shocks, which could, in effect, set the reset button on the recovery effort. Some of these potential shocks are classically economic, such as a crisis in an Eastern European country or a former Soviet Republic. Others, such as a swine flu pandemic or adverse geopolitical developments, are truly exogenous.

Neither individually, nor as a whole, do these factors have salience for our decisions at this meeting. However, they do suggest that policy challenges may extend for a considerable period—policy challenges, I should say, beyond that of the unwinding of our balance sheet. Even when dawn truly breaks, it promises to be a very slowly clearing day. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. And thank you all for a very interesting set of comments. This is a good time for us to break. There is a reception and dinner upstairs. No business will be conducted, just for your convenience. We will begin tomorrow at 9:00 a.m. Thank you.

[Meeting recessed]

April 29—Morning Session

CHAIRMAN BERNANKE. Good morning, everybody. I think we have some data to begin with. Dave.

MR. STOCKTON.⁵ Yes, Mr. Chairman. I think folks should find the little GDP scorecard at their seats. The advance estimate for first-quarter GDP was released this morning. The top-line GDP figure that the BEA is currently estimating, minus 6.1 percent, is very close to our estimate of minus 6.3 percent. As usual, the offsetting errors were our friends. [Laughter] I would point to two on the domestic spending side. Personal consumption, as you can see, was stronger than we had estimated—2.2 percent versus the 1.1 percent we had projected. At this point, we will have to see the details to know whether there is any signal that we should take from that. The other area that I would note is nonresidential structures, which came in at minus 44.2 percent versus the minus 26.4 percent that we were forecasting. I guess that won't come as much of a surprise to many of you who reported incredible weakness in that area yesterday. Some of that unexpected weakness came in the drilling and mining activity, so maybe some of those rigs that are making their way from Kansas City to Richmond got lost somewhere along the way. [Laughter]

MR. HOENIG. We hope so for Richmond's sake. [Laughter]

MR. STOCKTON. As you know, there are areas of missing data in this advance estimate. In two areas, the BEA wrote down assumptions for the March missing data that are different from ours. One is imports, for which it wrote down a weaker figure for March than we are, and the other is inventories, for which it wrote down a weaker March figure than we are. The GDP consequences of those two different assumptions, in fact, are just about offsetting. We would be inclined to stick with our estimate at this point. We don't really think that the BEA

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

knows anything more than we do about those particular pieces of data. But, sticking with our assumptions, the consequences for the top line would be roughly offsetting. Finally, on prices, you can see that the BEA is a little lower on core prices—0.2 percentage point lower—than our Greenbook estimate. I don't think we would have any reason to second-guess them on that. So that is the end of the report, Mr. Chairman.

CHAIRMAN BERNANKE. Any questions? Okay. I have the rare advantage of having had overnight to work out my summary of the discussion so it may be somewhat more coherent than usual. Let me start with that. The intermeeting period saw some tentative evidence of stabilization of real activity, or at least a slower decline relative to the earlier sharp contraction. Indicators of possible stabilization appeared in data on consumption, housing, durable goods, regional manufacturing reports, and other areas. Surveys and some anecdotal reports suggested a slightly greater confidence on the part of households and businesses. Financial markets also generally improved. Inventory decumulation has been brisk, suggesting possible increases in production in the medium term. However, labor markets remained weak and global economic and financial conditions, adverse.

Overall, participants were very cautious about taking too much signal from the incoming data, noting its tentative nature, particularly the improvement in the financial markets. False dawns have occurred in previous recessions. To the extent that participants saw an upturn materializing, most thought that it would be relatively anemic because of factors such as financial headwinds, including ongoing deleveraging; the need for economic restructuring; slow global economic growth that may be lagging the U.S. cycle; and the high vulnerability of the fragile economy and financial system to shocks. Further policy support, both in the United

States and abroad, would be constrained by the zero lower bound on interest rates and by the already high level of fiscal borrowing.

Consumer spending shows some signs of bottoming out. Fiscal stimulus will support consumer income going forward, and the rising stock market and possibly slower declines in house prices imply that wealth is no longer dropping so sharply. There are at best, however, only the slightest indications of improvement in labor markets. Unemployment claims and job losses remain high; firms are undertaking permanent reductions in labor force; and involuntary part-time work is unusually elevated. Housing activity is giving some indications of stabilizing at a very low level, with affordability and buyer traffic up and inventories down. However, prices are likely to continue to fall, in part because of the additions to supply from high rates of foreclosure.

Production and investment remain weak, although firms' attitudes are not quite as negative as they recently were. Drilling and mining have been affected by commodity prices. Export demand remains depressed. Industrial production has continued to fall both here and abroad, and growth rates in both advanced and emerging-market economies have fallen significantly. China is somewhat stronger than other Asian countries, but perhaps not as strong as its official statistics imply; and like many other countries, it remains dependent on export demand. Europe faces slow growth and potentially serious banking problems, including exposures to Eastern Europe.

Financial market conditions generally had a better tone. Stock prices rose, money markets exhibited better liquidity and lower spreads, corporate issuance of bonds and convertible securities is healthy, volatility is down, and other indicators of market functioning have improved. Better financial conditions have helped confidence, even as indications of economic

improvement have reduced risk aversion in markets. However, financial markets had shown signs of improvement on several previous occasions before worsening again. Moreover, although banks generally reported good earnings in the first quarter and their share prices rose, confidence in banks—as shown in CDS spreads, for example—remains tenuous. A number of people observed that the disclosure of the capital assessment results on Monday will be a stress test in itself for the banks and the markets. Credit continues to contract because of declining credit quality and loan demand, capital constraints on banks that don't want to base increased lending on government capital, and the unavailability of financing through securitization markets. Lack of financing for commercial real estate remains a particularly serious issue.

Most see inflation as remaining low for the foreseeable future. Slack looks to be high and increasing, as reflected in high unemployment and low capacity utilization. Wages are growing more slowly. With the slight improvement in the outlook and the incoming inflation data not particularly low, deflation risks have moderated but remain a worry for some participants. On the other hand, some expressed concerns about upside inflation risks, reflecting the possibility that the output gap is being overestimated and that forward-looking expectations may react to factors such as the Fed's rapid balance sheet expansion and its purchases of Treasury securities. Effective exit strategies from Fed policies and good communication are necessary to maintain confidence that price stability will be achieved.

So that is my overview. Any comments or questions? If not, let me make just a few comments, as usual. I am after Governor Tarullo, and so it is even more difficult for me than for him to come up with something new. On the proverbial green shoots, [laughter] we all want to be cautious, but it is nevertheless better to see good news than to see bad news, and we have seen some nascent signs of improvement. Although they are small, subject to revision, and so on,

they do occur across a number of areas, and so that is a positive. But, of course, I agree that we need to be very cautious about overinterpreting what are still relatively modest changes. I am reminded of a comment I heard on MSNBC while I was watching Tim Geithner's press conference after the G-7. Tim had said something to the effect that the rate of decline had slowed, and the commentator said, "Well, if you close all the factories in the first quarter, the rate of growth will stop declining."

I think one area that we all do feel somewhat better about is the financial markets. There has been a range of improvements in areas where the Fed has been involved but also in other areas like the corporate markets. A wide range of volatility and stress measures have also looked a bit better, and we saw a bit of improvement in the Senior Loan Officer Opinion Survey. It could be that we are seeing a bit of the adverse feedback loop working in the other direction, which is, of course, good. The markets, in turn, have responded to some extent to improved news, and higher stock markets, for example, have helped confidence and probably spurred some extra consumer spending. But, again, back to the theme of not overinterpreting or overextrapolating, we have seen how quickly those gains can be lost.

As we look at the economy and try to think about where it is going, it is useful to have on two sets of glasses—both a short-term cyclical-dynamic set of glasses and a medium-term adjustment set of glasses. On the short-run cyclical dynamics, we are seeing what may be the working-through of a classic inventory cycle. The GDP data just shown were a striking contrast between the fourth quarter and the first quarter in terms of the composition of final demand versus inventory decumulation. In that respect, it is encouraging that inventories are moving back toward balance. The Greenbook sees that process as ongoing, with inventory decumulation in the second quarter being about as large as in the first quarter. Nevertheless, obviously, as that

cycle proceeds, we will perhaps see some improvement in production. Of course that depends on seeing stabilization in final demand, which ultimately drives the short-run cycle, and there are a lot of risks here. People have talked about the risks to commercial real estate, other construction, trade, and so on. The key element, as usual, will be the consumer, and I do think that the improvement in the first quarter is not entirely a fluke. I think there are some signs of improvement in that area, notably that wealth is not declining as quickly—the stock market and housing prices are not falling as much. We saw a rather marked increase in sentiment yesterday. Fiscal policy is going to be supportive of consumer spending. Credit is tight but probably not getting worse. The main uncertainty there, as a number of you pointed out, is the labor market. Until we see a bit of improvement there, that will remain a major source of uncertainty. But in the surveys and so on, we have seen just a bit of indication that consumers see strengthening in the labor market.

So the combination of some potential stabilization in final demand and the working-through of the inventory dynamics does give some hope—again, with all the caveats that everyone has expressed—that we will see somewhat better economic growth performance in the next couple of quarters and possibly even the end of the technical recession by the fall. In thinking about that, though, we should also keep in mind not just the short-run growth dynamics but also the amplitude of this whole episode. Burns and Mitchell, in their original classic work, divided the business cycle into six stages, which were of indeterminate length. And the bigger the recession, the longer each of the cycle's six stages was. Obviously, the shock that hit the economy in the fall of last year was enormous, and it was global. So even if we see the usual inventory–final demand dynamics working through, that combined with the restraining effects of financial stress and the like suggests that this will be a slower, deeper cyclical pattern than is

normal. So, to summarize, on the cyclical side, while Governor Tarullo's examples of false dawns are very instructive, I think there is a decent chance that we will see some improvement in the near term.

The other perspective, however, which I think is very important and a number of people pointed out, is the medium-term constraints and dynamics that affect the economy.

Unfortunately, our economy still has a significant number of very serious imbalances that need to be resolved before it can grow at a healthy pace. Just to list five. First, the leverage issue of both the financial and the household sectors. Second, wealth–income ratios are well below normal, and therefore more saving is needed to rebuild those ratios. Third, we have dramatic fiscal imbalances, which have to be reconciled at some point. Fourth, we have current account imbalances, which are at least temporarily down, but the Greenbook forecast for the medium term is that there is probably some worsening in that dimension. And fifth, as a number of people mentioned, the unemployment we are seeing is probably not mostly a temporary-layoff type of unemployment. There is a lot of reallocation going on. The financial and the construction sectors are probably not going to be as big in the future as they have been recently, so there will need to be that readjustment across sectors.

If you put all of those imbalances together and you think about what is going to support sustainable economic growth, it is a little hard to see where a robust recovery is going to come from. In particular, consumption is unlikely to be dynamic, as President Trichet would put it, because of leverage and the need to build wealth and because of lower employment and those factors. The government sector is unlikely to be a major support indefinitely because of the need to rebalance the fiscal budget. Therefore, by arithmetic, that leaves only two categories, which are investment and net exports. A capital boom would be very good news. Among other things,

it would help solve some of these reallocation problems and allow new industries to expand or to grow. But it is not obvious where that is going to come from, and the financial constraints are also a drag on that direction. Finally, what we really and truly need, as we have been saying for many years, is a rebalancing of global demand that would allow the United States to have better external demand. Again, there are some preliminary steps in that direction, notably in China and a few other countries that are beginning to understand that full reliance on exports is not necessarily a safe strategy. But that is not likely to be a near-term solution.

So when you look at the economy from both of these short-term dynamic and medium-term dynamic approaches, the conclusion is that we may have some improvement this year. That, of course, is hostage to financial conditions and to consumer behavior and attitudes. But I don't see much scope for a stronger recovery. I could be wrong. There are things going in that direction, such as the depth of the recession, which may at some point mean a stronger recovery. But it is difficult to see the underlying factors that will lead to a powerful recovery in the near term, and so we will have to deal with that. The implications for policy, as people have pointed out, are not entirely unambiguous because, to the extent that slow growth reflects things like reallocation and changes in the structure of the economy, it is as much a potential growth issue as it is an aggregate demand issue. So that is my assessment. Unless there is any comment or question, let me turn now to the policy round, and I will call on Brian.

MR. MADIGAN.⁶ Thank you, Mr. Chairman. I will be referring to the package labeled "Material for Briefing on Monetary Policy Alternatives." The April Bluebook presented two basic policy alternatives for your consideration. Under alternative A, the Committee would buy an additional \$450 billion of Treasury securities on top of its already announced plans to purchase up to \$1.75 trillion of Treasury, agency, and mortgage-backed securities. Under alternative B, the Committee would maintain its previously announced plans. The Bluebook also offered a variant of alternative B, dubbed B', which translates the announced total purchases of securities and time frames into monthly dollar amounts and monthly

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

growth rates of the System's securities portfolio. Turning to page 2, this morning we have proposed a change to the first paragraph of all the alternatives (shown in red) in order to be more consistent with the economic data released this morning and with the general sense that household spending could be leveling out. That proposed change is applied to all of the alternatives in the packet.

The Committee might adopt the further expansion of its securities portfolio proposed in alternative A if it thinks that the economic outlook under its current policy path is unacceptably weak and believes that the advantages of providing additional monetary policy stimulus through expanded large-scale asset purchases would outweigh the disadvantages. Under the staff's analysis, the outlook is indeed quite weak. Although economic activity bottoms out around the middle of this year, the recovery remains tepid until mid-2010. The staff sees the economy expanding at a pace below that of potential GDP through the first quarter of next year—even though potential growth is temporarily held down by financial strains and the need to reallocate resources—so the unemployment rate rises to 9¼ percent by the end of this year and only edges lower next year. In the extended Greenbook baseline forecast, the Committee is assumed to hold the federal funds rate at its effective lower bound until 2013. Those very low short-term interest rates, together with the lagged effects of the Committee's large-scale asset purchases and other policies to support financial markets, strengthen financial institutions, and boost spending eventually produce sufficient repair of balance sheets in the financial and household sectors and enough aggregate demand to spur growth to 4½ percent in 2011 and tilt the trajectory of unemployment down more noticeably. But the staff projects that, even with these policies, the economy does not return to full employment until late 2013, four-and-a-half years from now. In the staff forecast, core PCE prices rise at an average annual rate of less than 1 percent over the next five years, well below the 2 percent rate that the majority of you view as consistent with your dual mandate. While your own forecasts generally point to somewhat higher inflation than foreseen by the staff, you still anticipate inflation to be below 2 percent over the next three years.

If you judge that the outlook for economic activity is excessively sluggish and inflation is likely to be on the low side of its optimal level, you might be inclined to provide additional monetary stimulus by expanding your large-scale asset purchases. Market participants appear to put only small odds on an expansion of your securities purchases today, so the announcement of an additional \$450 billion of Treasury purchases might lower longer-term interest rates, including private rates, by 20 to 45 basis points. Although these estimates are subject to great uncertainty, such a reduction might raise the level of real GDP after three years by ¼ percent to 1 percent relative to baseline and lower the unemployment rate 0.1 to 0.5 percentage point in 2011.

The language proposed for alternative A does not differ markedly from that used by the Committee in its March statement, but as I noted, the material shown in red is less downbeat than both the March language and that proposed in the Bluebook. Also, relative to March, the reference to declining equity wealth has been dropped in

view of the rebound in stock prices over the intermeeting period, and the sentence on the slump in U.S. exports and recession abroad has been omitted. However, to explain the motivation for undertaking the additional policy action of alternative A, the final sentence of the first paragraph would indicate the Committee's anticipation that economic activity will continue to contract in the near term and that the subsequent recovery could be sluggish. The second paragraph, on inflation, is essentially the same as in March, but it uses a slight variant of the language to refer to inflation rates that are "most consistent with sustainable economic growth." That revised wording is employed to avoid suggesting that inflation fosters economic growth, but this improvement may not be worth the costs in terms of market analysts wondering what subtle message the Committee is sending by making the change.

The third paragraph of alternative A modifies the corresponding paragraph of the March statement to indicate the expansion in the asset purchases but otherwise explains the Committee's intentions in essentially the same way, referring to a total quantity of asset purchases spread out over specified time periods this year. Another change in language is to note explicitly that asset purchases will be state contingent by indicating that "the Committee is prepared to make further adjustments to the timing and overall amounts of these purchases of Treasury, agency, and mortgage-backed securities as appropriate in view of the evolving economic outlook and conditions in financial markets." The penultimate sentence now references the Fed's liquidity programs generally rather than specifically citing the TALF, as in the most recent three statements; this change might be desirable in view of the TALF's slow start.

In considering whether to expand asset purchases, the Committee would need to balance a number of factors, including the baseline outlook for both economic growth and inflation, the risks around that outlook, and the benefits, costs, and uncertainties of a further expansion. In your forecast submissions, several of you indicated that you were concerned that the Committee's large-scale asset purchases and other programs that expand the System's balance sheet could unanchor inflation expectations. More generally, as I noted yesterday, many of you projected noticeably higher inflation in 2011 than does the staff, even with somewhat less economic growth.

A sense that the risks to inflation relative to the Committee's objectives were more nearly balanced than suggested by the staff forecast might incline the Committee to pause at this meeting, as under alternative B, on page 3. A decision to stand pat might also be supported by a judgment that the Federal Reserve and the government have now put in place a range of effective programs to support credit flows and economic activity—programs whose effects on the real economy and inflation will be evident only with a considerable lag. Finally, the Committee may be encouraged by recent information suggesting that the deterioration in the economy may be slowing.

Paragraph 1 for alternative B is largely the same as that for alternative A, including the reference to some easing in financial conditions and the modified passage shown in red, but the final sentences do not express an expectation that the recovery will be sluggish. As in March, the final clause refers to a gradual resumption of sustainable economic growth. The paragraph on inflation is identical to that in the March statement. The third paragraph, on policy actions, is substantively similar to that used in March; in particular, the Committee would make no change to its program of large-scale asset purchases. The third sentence from the end would note that the timing and overall amounts of its asset purchases may be adjusted in view of the evolving economic outlook and conditions in financial markets, as in alternative A. Unless that sentence is interpreted as suggesting that the Committee is leaning toward expanding or contracting its asset purchases, an announcement along the lines of alternative B seems unlikely to prompt much market reaction.

Alternative B', page 4, is identical to alternative B except that, in response to suggestions from Presidents Bullard and Plosser, we included text (highlighted in yellow) that translates the dollar amounts and time frames of future asset purchases into monthly average dollar amounts and monthly average growth rates of the System's securities portfolio. Some readers may find the additional information helpful; others may find confusing the proliferation of numbers that results from expressing the Committee's unchanged plans for asset purchases in three different ways.

Also attached for your reference on pages 5 and 6 are alternatives B'' and B''' as proposed by Presidents Bullard and Plosser. These alternatives are, again, substantively the same as B and B'. But they provide the material in a different order by beginning with a paragraph on the Committee's policy decision, then presenting the two paragraphs on the rationale, and concluding with various points, including the Committee's intention to monitor the size and composition of the balance sheet. It is worth noting that B'' and B''' cover the federal funds rate target in this final paragraph rather than in the introductory paragraph. A key difference from B and B' is the way that B'' and B''' quantify the plans for asset purchases. Under alternative B'', the Committee would specify numerically only a monthly growth rate of 18 to 20 percent for its security holdings, rather than the total dollar stock of planned purchases; the announcement states that that the specified growth rate is consistent with the Committee's already announced plans. Alternative B''' would take a similar approach but would articulate the growth of the securities portfolio in dollar terms rather than percentage terms.

Finally, let me note that we distributed to you this morning a corrected exhibit from my briefing yesterday on your economic projections. No central tendencies or ranges that I discussed were affected. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Are there questions for Brian? President Evans.

MR. EVANS. Thank you, Mr. Chairman. Brian, listening to your presentation and some of the discussions yesterday, I am a little confused about the way the policy options are presented. I know there will be a discussion about the rate of purchases, but it does seem as though the policies that we are implementing, as I was talking about with Vice Chairman Dudley beforehand, have a cliff-like nature to them in the sense that we have a pace for purchases and then we're just going to stop under the current implementation by the Desk. The Desk, I suppose, is charged with the responsibility of inferring a path that the Committee hasn't really specified, and it feels very incomplete. We are almost surely locking ourselves into a future action in order to smooth that cliff-like purchase behavior, which we just haven't discussed. I am not saying that I disagree with any of that, but it feels different from the way we have always talked about the funds rate policy in the past, when we could take an action and choose to not do that the next time. There seem to be future ramifications from these actions. So do we leave it to the Desk to infer how to implement the additional, say, \$300 billion of Treasury purchases as opposed to telling them that, in addition, there is a plan that, if this is the entire amount to be done, it should tail off in some smooth fashion?

MR. MADIGAN. Well, of course, the Committee issues a directive to the Desk, and my understanding of the directive—and Trish may want to comment on this—is that the Committee has essentially instructed the Desk to carry out the purchases that are specified at rates that roughly average the amounts specified by the Committee but that also potentially take into account market conditions.

Now, you are raising a separate issue, which relates to the questions that Presidents Bullard and Plosser have raised. It is, What's the longer-run path or the longer-run plan for the Committee's open market purchases? I agree that, in an ideal world, the Committee would articulate a fully blown plan for its monetary policy settings over the indefinite future. I think that is difficult to do in practice. One way to look at this is that the world will surely turn out differently, either better or worse, from the way we currently see it in terms of the baseline projection, and eventually the Committee will need to adjust its plans for large-scale asset purchases and other monetary policy settings like the federal funds rate. That could conceivably mean that later this year, for instance, the Committee scales back its large-scale asset purchases or expands them. So I do not think that the way that the Committee has already expressed its statement or its directive to the Desk rules out those adjustments at some point in the future. It just doesn't make clear at this point what those will be in the absence of information about how the economy and the outlook will progress.

MS. MOSSER. I would agree with that. Two comments. The first is that there really is no cliff-like expectation in the market right now. The good news is that we have a lot of credibility that we're not going to stop abruptly one day.

MR. EVANS. But we get all of that from your presentation.

MS. MOSSER. Right, and in fact, if you look at the latest primary dealer survey, to a firm practically, there is an expectation, regardless of the level effect, that the wind-down will be smooth. The timing of that varies from respondent to respondent, but the expectation is that we will not all of a sudden stop buying on December 30 or 31 of this year, particularly in Treasuries on September 30.

My second comment has to do more with the actual implementation. Is “steady as she goes” the right approach versus some another approach to purchasing, given that we are uncertain about the endpoint and how slowly we might wind these down? My comments here are really dependent upon the program we’re talking about. The MBS program—purchasing MBS, the issuance of MBS—is very lumpy. We could very well be well ahead of a steady-as-she-goes plan in purchasing MBS, given the current directive we have, in the next two or three months because there is a huge refinancing wave coming through and, if we don’t purchase, mortgage rates will rise or rise more than we want them to.

If that is the way the market dynamics turn out, that is the Desk’s intent in terms of instructing our investment managers. So we’re well prepared to be very flexible there and perhaps come back to the Committee with a warning at some point to say that we are well ahead of a steady pace, but our expectation is that purchases will taper off. Or we could come back and say, if we want to keep this program going, then what is the Committee’s view about increasing the size? As Brian noted, we don’t know which of those scenarios we may face, but those are the scenarios.

The agency debt purchase program similarly, honestly, is very dependent upon the financing needs of the GSEs. It is possible that the program might actually pull back early, if their portfolios shrink and there is less debt out there and less need to support the market in order to support the agency market. Then again, if the GSEs’ portfolios grow and our mandate is still to purchase, we may be lumpier in how we purchase those securities. Treasuries are different because of the steady issuance. Because we know that the Treasury Department is going to be issuing just a huge amount of debt at a steady pace and we also know, particularly for Treasuries, that the announcement effect may be as important as anything else in terms of lowering the level

of interest rates, we are more inclined toward “steady as she goes” in purchasing there. So the problem that you’re worried about and the cliff effect may perhaps be more relevant from an operational standpoint to the Treasury purchase program than to the other two programs.

MR. EVANS. Thank you.

CHAIRMAN BERNANKE. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. Brian, I am sure that this is covered in some of the write-ups, but could you walk through how the number 450 billion was selected and what other numbers were considered?

MR. MADIGAN. I would see this in the context of the overall set of materials that the staff has provided to the Committee, especially at the last meeting and this meeting, and the various attempts that we’ve made to calibrate the different amounts of asset purchases to evolving economic conditions and their effects on the economy. We didn’t look carefully or specifically at a whole range of options. Basically these would be viewed as linear, and if the Committee were inclined to go with the smaller number, then the effects on the economy and interest rates would be correspondingly smaller, and vice versa for larger purchases.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. Part of the cliff nature is that we’ve stated specific end dates, originally six months and now by autumn, and with regard to the mortgage-backed securities, we stated by the end of the year. I would just like some clarification on the comment you made, Trish, about understanding the lumpy nature of the mortgage-backed securities market and whether or not the agencies need more financing. What caught my ear was your comment about Treasuries and that that is what the community expects. We’re going to even this out since there’s constant issuance

over the time frame that we articulated. In creating that cliff, we're committed to that. But was your comment that they expect us to do more when this is over?

MS. MOSSER. Yes. The market expectation is absolutely—

MR. FISHER. It will continue to grow this over time after we have run the course of what we previously stated.

MS. MOSSER. In the Treasury program, yes.

MR. FISHER. And to what extent?

MS. MOSSER. I showed the average. Our dealer survey had an average of the program that the sizes total to approximately \$500 billion, but their estimates there are quite skewed. A number of individuals expect that the program will be \$750 billion, along the lines of what it is in alternative A. In fact, I would also say that, in the dealer survey, we asked economists for their opinions. If we asked the Treasury traders for their opinions, I think we would probably get an average or a median expectation that the Treasury program would be even larger than \$500 billion. But it is the one program that all market participants say will be both extended, partly because its terminal date is earlier than the mortgage and agency one, and expanded by a sizable amount.

MR. FISHER. And that larger number would be what percentage of the expected issuance? I don't have your charts from yesterday.

MS. MOSSER. It would still be only about half.

MR. FISHER. In terms of the larger number that you gave?

MS. MOSSER. Yes, even the larger number would be about half.

MR. FISHER. Thank you.

CHAIRMAN BERNANKE. President Bullard.

MR. BULLARD. If I understand your comments correctly, the Committee has effectively committed to more than what we said, according to the private sector's view of what we're going to do, and probably more than what the Committee is going to do—because, if we don't believe our own cliff, it's just not credible. It's not a credible commitment to say we're just going to stop all at once at a point in time.

MS. MOSSER. Yes, that's correct. In terms of cliff effects, because of the lumpiness, if the market conditions are appropriate, it will be easier, for example, to slow down quickly the purchases of MBS and, to a degree, the purchases of agency debt. The Treasury piece will be the part for which, because of the smooth issuance and the expectations, from an operational standpoint, we would guess that a smoother slowdown would be a more advisable implementation strategy.

CHAIRMAN BERNANKE. I'd like to say, though, that I don't see any reason that you couldn't say that we're going to extend this three months but we're going to have a tapering off.

MS. MOSSER. Absolutely. Our recommendation would be that, if the Committee has been clear about their intentions that it's not needed, we would put on a timetable—we're now publishing a schedule two weeks in advance; we don't put in the quantities, but we put in the section of the curve—and we would make clear that we're going to diminish our purchases over time.

CHAIRMAN BERNANKE. Other questions? Okay. If not, we are ready for our policy go-round. Let me start with President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. The Committee has embarked on a strategy of working on all fronts to combat the severe economic downturn and continuing problems in our financial intermediation sector. The recent return of some relative stability in financial

markets is, of course, welcome. But I believe it remains fragile. In particular, as many noted yesterday, I think that the pending release of the bank's supervisory stress tests has the potential to be very disruptive to markets. Let's hope that doesn't happen.

Like many of you, I agree that the type of recovery we are likely to see is going to be modest, but my reasoning and my view of that modest recovery is somewhat different from those perhaps expressed through the Greenbook. As I tried to articulate yesterday, my view of the decline in equilibrium output is driven by a severe shock to the financial intermediation sector. It might be not only large but also fairly persistent. What that does is manifest itself in higher-than-normal unemployment rates—sectoral reallocations as the Chairman is referring to—and perhaps imbalances that the economy must work through in response to that shock. Thus, GDP will be lower and unemployment rates will be higher. The main difference such a view has for the outlook, compared with the Greenbook view, is the model's implications for output gaps, inflation, and policy paths. In this equilibrium story, the real allocations must occur, but it is dubious that the policy actions can do much to prevent those costs from occurring. This view also implies that gaps are smaller and less downward pressure on inflation is present, and thus the appropriate policy paths under consideration would be less expansive in order to constrain inflation.

Turning to policy, I think we face some very big challenges and uncertainties. The Board has now approved another expansion in eligible collateral for the TALF, with the previous expansion announced just a month ago. And the staff is considering even further collateral expansions, including legacy assets, with recommendations expected in the next few weeks. It seems as though we are in a cycle in which we announce interventions in one market or asset

type and then almost immediately turn around and consider other interventions in other markets and other asset types.

Clearly, our intention is to improve market functioning in these sectors. But I am increasingly uncomfortable with the practice, and I am concerned that our announcements—and indeed the whole strategy of gradually expanding the breadth and scope of our interventions across both asset classes and maturities—are another source of instability in the marketplace. I am not certain that we have adequately evaluated the interactions among all of these programs or that we have an adequate sense of the marginal benefit of the incremental actions that we are undertaking. Moreover, can we be sure that our programs are not distorting markets, discouraging the return of participants who are waiting on the sidelines for the next great deal or subsidy from the Federal Reserve policies, and hampering the development of new, sustainable market mechanisms for raising capital and allocating credit, thus actually delaying financial market recovery?

As I have said before, I am not against expanding our balance sheet, given the current economic conditions and outlook. I do prefer that expansion be done with more-liquid government securities, such as Treasuries rather than MBS, relative to illiquid private securities. I am troubled by our difficulty in quantitatively determining what might be the right amount of expansion that is appropriate. Nevertheless, given our current commitments, I am against announcing any further increases today. The change in the forecast, and certainly in the Greenbook and many people's forecasts since March, doesn't seem to warrant further expansions. I think we need to give our actions time to work.

Thus I favor some version of B, B', B'', or B'''. [Laughter] That narrows it down quite a bit. I would also prefer, in general, that we be more explicit about the linkage between our

policy actions and our inflation goals. We mention in paragraph 1 that our policy actions will contribute to a gradual resumption of sustainable economic growth, yet in paragraph 2 we give only a forecast for inflation with no mention of our related policy actions. This seems to me oddly asymmetric. By failing to link our balance sheet expansion with our inflation goals, we fail to communicate an important and explicit aspect of our policy. We don't say, for example, that we are taking these actions in part to help ensure that we avoid deflation or, given that we are operating at an effective lower bound, having inflation slightly higher would not be unwelcome. By failing to make this link to our policy actions and our inflation goal, we are not being as transparent as we could be, and I think we risk the public's breaking the link between our actions and inflation, thus potentially weakening our credibility and our ability to maintain those well-anchored expectations.

Short of being explicit about adopting an inflation target, we could, for example, create more of a link by slightly modifying paragraphs 2 and 3. I am working off of B rather than B' for now. We could strike the second sentence in paragraph 2 on inflation—if I'm looking at the right one—where we say, “Moreover, the Committee sees some risk that inflation could persist for a time below rates that best foster economic growth and price stability in the longer term.” We could strike that sentence and change the first sentence of paragraph 3 to read, “In these circumstances, the Federal Reserve will employ all available tools to promote economic recovery and to forestall any risk that inflation could persist for a sustained period of time below rates consistent with price stability.” In other words, I think we need to make sure that the actions we take link to our inflation objectives more directly.

As I suggested yesterday, I think we are at risk of generating substantial inflation in the not-too-distant future, and that is particularly so in the policy path described in the Greenbook.

It's useful to remind ourselves that the high inflation episode in the 1970s is a case study of a rapid monetary expansion in the context of an apparently substantial output gap, and the overreliance on and overstatement of poorly measured estimates of an output gap and a reluctance to make the difficult decision to reverse accommodation in a timely fashion contributed to very bad economic outcomes in that episode. I believe the current situation poses an eerily similar set of circumstances and conditions, and we must be careful not to repeat that unpleasant experience. I'm troubled by the challenge that we face in determining how we will decide when we've done enough. As I've noted several times, I'm skeptical of relying too heavily on interest rate spreads as the sole criterion.

More generally, I'm uncomfortable with the communication of our actions. The memo that President Bullard and I circulated last Friday tries to address some of these concerns. We have proposed language that reinforces the notion that our policy is state contingent and that we are on a policy path rather than focused on one-time announcements for the purchase of some class of securities, be they MBS or Treasuries, of some magnitude usually expressed in some round number of billions of dollars without any explanation as to where those numbers come from, much as President Lockhart's question is about where the \$450 billion came from. I think our recent statements may be creating more uncertainty than necessary about what the FOMC will do next in terms of announcing new quantities or new purchases of assets. The current approach will leave the impression, as was just discussed, that we will stop purchasing assets suddenly, cold turkey, and perhaps face the cliff problem that was just discussed.

So I'd like to spend just another minute, Mr. Chairman, to make some comments about B'' and B''' from my standpoint just so the Committee understands a little where we are coming from. We did two or three things that we think are pertinent and important. First, we moved the

action up to the first paragraph, which is more consistent, we believe, with the traditional way in which we've structured our policy statements. We also took seriously the notion that we have made commitments. Rather than providing a litany of numbers, we think that we would just say in the first sentence, "Treasury securities." We purchased "Treasury securities, agency debt, and MBS in a manner consistent with our previous announcements." That suggests two things. One, in our previous announcements the Committee was explicit about saying that we would purchase up to a certain amount. It doesn't guarantee either that we would get there or that we might not exceed it, but it does say "up to." I think it is important that we maintain that flexibility, and we think that our language helps ensure that. We also chose to focus on the asset side of the balance sheet, as the Chairman has many times discussed the issue of focusing on assets rather than on the liabilities. We also note that we retain flexibility as to how the Desk would actually implement this. Trish just gave us an example of the lumpiness of some of this thing. This does not say that we would purchase every asset at the same pace, but it talks about the general pace of expansion of the balance sheet, and the Desk would have some flexibility to implement that depending on the nature of the securities that they were purchasing.

In the staff's B' version, we were troubled by the expression "20 percent per month" for a given period of time, which ignores compounding problems. If you did follow 20 percent per month literally, we would actually far exceed the purchases that we announced. So we chose to focus on growing the balance sheet and the total purchase of these securities by, we said, 18 to 20 percent per month over the near term because as, the balance sheet grows, the growth rate would actually start to decline. We thought it would be better to express it that way than over a longer period. The log of 1 plus r approaches r when r is small, but when r is 20 percent, those approximations don't work very well anymore. Finally, in the first paragraph we make very

explicit, as Brian suggested, that the Committee stands ready to adjust both the timing and the overall amounts of its purchases as the economy evolves, and that's the important conditionality.

We believe that trying to move to a statement that looks like this will not only help us communicate to the markets that we are on a path—an important path, we think—but also preserve our flexibility in terms of conditionality. We also believe that having a statement structured more like this will help us when the time comes to start an exit strategy. This gives us more flexibility in expressing what we believe the policy path may be. I will leave it at that. Thank you for the extra time, Mr. Chairman. I appreciate it.

By the way, I also want to compliment and thank the staff. Brian and I had several conversations over the last several weeks talking about how to do this, and the staff were very helpful and very accommodating, and I just want to express my appreciation for the interactions that led to these suggestions. So thank you.

CHAIRMAN BERNANKE. I have just one small comment. I appreciate your doing what I asked, which is to work in advance and provide a concrete alternative, which I think is very helpful. I have a question about B'' versus B'''—the 18 to 20 percent versus the \$160 billion per month. I think a problem with the 18 to 20 percent is, of course, that if we follow our plan, a week from now we'll be announcing 15 to 18 percent or something, and that could be misconstrued as a change in our strategy. It isn't quite as transparent in that respect. So in doing this, my inclination would be to go with the dollar number. But I just raise that point.

MR. PLOSSER. Well, that's why the B''' was there. That was part of the discussion, to figure out what's the best way to express that. But, again, I think that's a point worth discussing. I don't feel as strongly about that as I do some other pieces.

CHAIRMAN BERNANKE. President Hoenig.

MR. HOENIG. Thank you. I guess as we consider all the options, I do prefer alternative B and not the primes. I guess I'm more concerned about and more interested in the fact that we are increasing our balance sheet by the extent that we are, and I'm not enamored of the idea of doing that and saying, "Here's the path that we're going to take." I'm more concerned about the amount than I am whether we have a path, because that's the striking point. I also like the wording in the sense that the Committee under any of these is prepared to adjust the timing and the amounts. If you think about how much the projections have changed in the Greenbook, for example, from the last meeting to this meeting and if we are near the bottom, things could change, and I think the Committee would need to reconsider even the amounts at another meeting. The wording in the B alternative allows us to do this.

I did note and am very much appreciative of the work that the staff did on the projections on the balance sheet because I think it does point out that, if we go to these sizes, we have some real challenges ahead of us. I think the June meeting is extremely important in terms of thinking about an exit strategy. That's very important because, if we do achieve the total amount under the mortgage-backed securities, our holdings will be larger than those of either Fannie or Freddie, and that's a striking statement as far as our role in the economy goes. That gives me some pause. So B is fine. I hope that the next meeting will show even more positive news and we can adjust these numbers going forward. Thank you.

CHAIRMAN BERNANKE. Thank you. President Yellen.

MS. YELLEN. Thank you, Mr. Chairman. I favor alternative A. The Greenbook projection, with which I broadly concur, assumes no change from our announced asset purchases. It foresees unemployment remaining above 9 percent through the end of 2010 and

inflation well below our preferred rate for even longer. I consider this unacceptable in light of our mandates. I think we need to do more to get the economy moving forward.

I think our actions at the last meeting provided compelling evidence that purchases of longer-term Treasury securities worked to bring down borrowing rates and improved financial conditions more broadly. Now that we've tested the waters, it's time to wade in by substantially increasing our purchases of Treasury securities. In fact, I could support increasing the amount beyond \$750 billion and would consider including securities of durations down to one year. The latter step would be aimed at bringing down one-year and two-year rates that are well above those consistent with our expectations for the future path of policy. Now, we could wait until our June meeting to take this step, but the question to my mind is why we would wait. As with the funds rate, I don't see a reason to keep our powder dry. So I prefer to take appropriate, bold action to stimulate the economy sooner rather than later.

Regarding the best way to communicate our asset purchases to the public, I strongly support the approach that we have taken so far and see no reason to change it. Our statements provide clear information on the expected size and duration of each of our asset purchase programs. Economic theory suggests that it is the size of the cumulative asset purchase relative to the size of the market that affects the yield and, therefore, the stance of monetary policy. In other words, it is aggregate purchases, not the growth rate, that matters. This is an important point because it implies that our communications should focus on levels or, alternatively, on the shares of the outstanding stock that we hold and not on changes or growth rates. A focus on growth rates or changes would confuse our message, and I therefore would consider it a mistake. I also think it's important to report the various types of asset purchases separately rather than as a sum because their effects on financial conditions and the economy may differ.

Our statements do leave open the question of what we will do once the announced purchases have been completed, but this ambiguity is appropriate given the high degree of uncertainty about the outlook and the effectiveness of the asset purchases. Indeed, we're already far clearer about our projections of asset purchases than we have ever been about the future path of the funds rate. So perhaps the change we should be considering is how to better communicate the funds rate path we think is most likely.

CHAIRMAN BERNANKE. President Evans.

MR. EVANS. Just to ask a question—would the Desk interpret alternative A as a greater pace of purchases or just pushing it out to the end of the plan?

MS. MOSSER. Given this size, it would be a greater pace as well. It would be like the mortgage program. We're purchasing Treasuries at \$50 billion per month. The \$500 billion that was in the dealer survey would be a steady pace, so to go to \$750 billion would be increasing the pace.

MR. EVANS. Would it be over the entire currently envisioned purchase time, or would some of it be pushed beyond that?

MS. MOSSER. It would depend on what the Committee asked us to do. If the directive is to extend it through December, then we would spread it out over whatever time frame the Committee gives us.

MR. EVANS. I am just asking whether or not further clarification would be required.

CHAIRMAN BERNANKE. Trish, on President Yellen's suggestion of shortening maturities, that has the other benefit of making our exit strategy easier.

MS. MOSSER. Yes, it does.

CHAIRMAN BERNANKE. Do you see similar market benefits of mixing in more one-to-three-year maturities, for example?

MS. MOSSER. There would probably be some market benefits at the front end of the curve. There's no question that the one-to-two-year section of the curve reacted less than the section further out. That's probably because a lot more issuance is there, and so the quantity we're buying relative to supply is a little smaller. And if we did it pretty explicitly, particularly between one and two years, we're guessing that it would steepen the yield curve; but we hope that, if it was announced, that additional purchases across the curve would have an announcement effect of bringing the whole curve down. So for that portion of the curve we think that it would be useful in bringing yields down.

CHAIRMAN BERNANKE. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. It would do less, though, to bring down mortgage rates. So it really depends a little on why you are purchasing the Treasuries. Are you purchasing the Treasuries to bring down mortgage rates, or are you purchasing Treasuries to steepen the yield curve?

CHAIRMAN BERNANKE. President Rosengren.

MR. ROSENGREN. The same logic could apply to mortgage-backed securities, though, because you could do 3-, 5-, and 7-year mortgage-backed securities, and that has the opposite story. Those would not be as deep, and so you might have a bigger impact if you did the shorter maturities. Unlike changing the maturity on the Treasuries, arguably you'd have a bigger impact if you changed the maturities and bought ARMs rather than the 15- and 30-year fixed. That's also something that might be worth thinking about because the ARM rates haven't come down

very much. So if you're looking at a 30-year fixed, a 15-year fixed, and a 7-year ARM, the 7-year ARM hasn't moved all that much, for example.

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. Yes, but the relative depth of the market matters in only a habitat kind of view, in which case the spillover to other markets is commensurately lower even if you're having a higher effect. I think that is what was troubling Governor Kohn.

CHAIRMAN BERNANKE. President Stern.

MR. STERN. I'm sort of lost as to how this might work. I thought you said earlier that the people in the marketplace anticipate that we're going to buy more Treasuries than we've announced so far anyway.

MR. FISHER. After the time frame is over or during the time frame, just for clarification?

MS. MOSSER. They are expecting both an extension and an expansion.

MR. STERN. Okay. So if we officially announce an expansion, are they simply going to mark everything up from here, or are they going to say, "That's what we expected—end of story"?

MS. MOSSER. That depends upon the size. The size they're expecting now is smaller than what has been proposed in alternative A.

MR. STERN. So if we do something bigger, presumably they're going to say that's probably it.

VICE CHAIRMAN DUDLEY. No, I don't think that's right. I think doing it means that you like what you've done. You want to do more, and it opens the door for doing even more at subsequent meetings.

CHAIRMAN BERNANKE. Okay. Let me just say that, although we have to manage expectations, we've made a commitment to what we've made a commitment to, and with the federal funds rate, we have surprised markets, and if we have to surprise markets, we'll do it again. So there is no commitment to do anything other than what we've said. We have the right, as we say explicitly in the statement, to adjust the timing. We could, for example, phase out by extending the period but not the amount in order to go out more slowly. There are other things we can do. So let's not jump the gun here. But I do want to ask you—just because this came up earlier—to think for the next meeting a bit about the idea of whether shorter maturity MBS would have benefits because it would, in addition, have some exit benefits.

MS. MOSSER. Yes, and we are going to study purchasing ARMs, which we had not purchased.

CHAIRMAN BERNANKE. Not just ARMs but also seasoned MBS with shorter duration.

MS. MOSSER. Yes. I don't want to leave the impression that we're not buying any seasoned MBS. We are. In fact, the purchases that we're making in the dollar roll market are actually exclusively the higher coupons because that's where the liquidity in the market was most affected. So from a balance sheet, month-to-month perspective, we actually are purchasing them. We're simply then rolling those purchases for the following month and lending them out, if you like, through the financing market. But we could definitely investigate increasing the share of higher coupon MBS as well.

CHAIRMAN BERNANKE. Were there other two-handers? President Evans.

MR. EVANS. Well, I'm at a loss to understand how to interpret the market's expectation. You talk to people in the markets quite a lot. During that conversation, do they

understand this path better than everyone else? I mean, we don't communicate this in our statement. I guess the question is, If in our own commentaries we go out in public, would you be relatively indifferent toward our describing it? We said we would do \$300 billion, and I have interpreted this that, as we get closer to \$300 billion, we would smooth this down and finish up. That is how this reads. It's a \$300 billion program. But others in the market have an expectation that it's going to go on to another \$100 billion or something like that. What is the right amount of information to communicate?

CHAIRMAN BERNANKE. It says we will adjust our magnitude and timing according to the information as it comes in. So we could expand the program, we could reduce it, or we could spread it out. All of those things are options. I don't think it's fundamentally different from other monetary policy decisions, which involve both communication and responding to new information that comes across the transom. Trish.

MS. MOSSER. I don't think the communication challenge is any different than it is with discussing the swap lines or the 13(3) programs. They all have deadlines. Markets participants understand that it is path dependent. Their view is that, if the economy gets significantly worse, the probability that the Board of Governors will extend the 13(3) programs and that the FOMC will extend the swap lines and the purchase programs is much higher. The better that things get, the less likely that is.

MR. EVANS. That dependence suggests a change in the path other than what we're currently expecting. So as I think about this, there's an outlook; there's an option chosen. If the outlook stays the same, then we've said \$300 billion, and it could be closed down, not just a recurrence.

CHAIRMAN BERNANKE. Yes, that's right. A two-hander from the Vice Chairman.

VICE CHAIRMAN DUDLEY. I think part of the confusion here is that we do a program and the market is also evaluating whether the program is effective, and then how are we going to react to the perception of the effectiveness of the program? So if we do a program and the market responds in the way that we want the market to respond, the market participants are going to assume that, gee, it worked pretty well for the Federal Reserve, so of course the Federal Reserve is likely to want to do more of it. Their view is conditioned not just on the macroeconomic outlook but also on how the markets respond to the program. In this particular case of the Treasury securities, I think that the market expects that the program is going to be expanded because (1) we did expand the MBS purchase program and so they've already seen that, when the market seems to get the desired response, the Fed has responded by increasing the size of the program and (2) they've seen that the Treasury program seems to have worked in the desired way that we intended. So all of those things point to an expectation that they expect the program to be expanded.

CHAIRMAN BERNANKE. But it also depends on the economic outlook.

VICE CHAIRMAN DUDLEY. Oh, sure. But it's not just the economic outlook; it's also how the program seems to work in practice because we don't have any track record on this.

CHAIRMAN BERNANKE. President Lockhart.

MR. LOCKHART. By emphasizing, as the Chairman just did, the ability to increase, slow down, extend, and so forth, it sounds to me like a very tactical approach. The directives that come every six or seven weeks from the Committee, are they a mode of guidance to the Desk that's going to be enough for you to interpret how to make those adjustments, or are we talking about a more frequent consultation with the Committee in order to be able to respond tactically?

MS. MOSSER. From a tactical standpoint—and I’m using the word “tactical” literally—I think we have plenty of direction from the Committee. We obviously need, particularly given how unusual and new these programs are, to communicate back to you to let you know what our tactics are, and we’ve tried to be clear with you. In fact, particularly in the case of the Treasury program, we’ve tried to be very clear with the market what our tactics are because transparency seems to make it more effective rather than less. Now, if I can re-interpret your question just a bit, should either financial or macroeconomic conditions change dramatically, would we like to have more strategic instruction from the Committee? Yes, on a more frequent basis. But barring that, I don’t see that we need a lot more direction on the day-to-day tactics, which I think we tried to lay out for you in broad terms.

CHAIRMAN BERNANKE. President Bullard.

MR. BULLARD. The fact that the private sector has some expectation about what we’re going to do doesn’t tell you anything. They’re always going to have an expectation about what we are going to do, even if we’re a completely silent Committee. The point is that it is not optimal policy as we’ve come to understand it over the last 25 years. You want to be in sync with the markets, and a lot of that is that the measure of success is not announcement effects. If you say that you’re going to buy a new category of assets that you have not talked about before, you’re going to surprise the market. You’re going to get some effect on that day. It might have nothing to do with optimal policy.

CHAIRMAN BERNANKE. Okay. Let’s go back to our regularly scheduled program.
[Laughter] President Lacker.

MR. LACKER. Thank you, Mr. Chairman. I’m comfortable with continuing on the path that we laid out at the last meeting—expanding our balance sheet. We did pretty well against

objectives over the intermeeting period. Asset purchases added \$215 billion, and the net runoffs in other lending, the reduction in the Treasury's general account, and some other miscellaneous wiggles in our balance sheet meant that currency plus reserves increased by \$146 billion, virtually all of that in reserves. So I'm happy with how we did over the last intermeeting period.

This last discussion has been fascinating against the backdrop of our not having a clear sense of exactly why and how expanding our balance sheet affects the world. I think about all the experience we've had with tracing the course of the fed funds rate through a recovery and out again, and I look at the graphs of our balance sheet and the timing of the recession, and I'm thinking, Why should our balance sheet peak in December or whenever it does? Do we have an analytical sense that that's the right timing for the magnitude of the stimulus? Are there announcement effects? Maybe it doesn't matter. Maybe it's just the time path cumulatively summed. But this habitat theory doesn't say that there are announcement effects; I'm not sure you get any announcement effects in that. And is it the assets or the liabilities? Is it the base? I think we're really groping in the dark here. I think we need to recognize that.

I'd like to see the Desk pay some attention to the base and accelerate its pace of purchases a little if the credit programs are running off faster than we seek. Similarly, if the credit programs don't run off as fast as we think, maybe the Desk could lighten the pace and respond accordingly. I think it's going to be really hard to think about adjusting this over the year. As I said yesterday, it's not likely to happen next week, for sure, but what if banks' demand for liquidity, protection against adverse market events, falls or rises? That could shift the effect of what we're doing. It could shift us toward a much more stimulative effect or a much less stimulative effect pretty suddenly, and I think we need to be alert for that.

As for the statement, something B-ish would be good for me. [Laughter] I guess I like the general structure of B''', as it's being called here—it's simple. But I could go with any of them.

CHAIRMAN BERNANKE. Okay. Governor Kohn.

MR. KOHN. Thank you, Mr. Chairman. I'm in favor of the action and language of alternative B with no primes. I think we don't need to take additional action today. We need to get further along in implementing what we've done. With a less negative outlook, I think the need for an additional, immediate reaction is less pressing and, given the high level of uncertainty, it argues for being a little more gradual in our actions.

Having said all that, I agree with many of the points that President Yellen made. The outcomes we predicted are just not satisfactory from the perspective of the objectives that the Congress has given us. The lowest unemployment rate we have in 2011 is 6½ percent. Now, I think the NAIRU may have risen in the structural changes, but whether it has risen 2 full percentage points, I think even President Plosser—let the transcript show that President Plosser shook his head “no.” [Laughter] So even at the end of 2011, we have an output gap. We can discuss how big it might be, but something is there. And inflation in most of our forecasts—not all of them, but most of them—is still on its way down. So this is not a satisfactory outcome, and we need to think carefully about what we can do about it, consistent with what the Congress has told us to do as the objectives of monetary policy.

There are a number of potential things we could do. One is more purchases of long-term securities, as President Yellen suggested. I'm not comfortable at this point with the suggestion that President Rosengren was making yesterday—that we set a long-term interest rate and aim for that. I think that would complicate the exit strategy tremendously. But my mind is open to

these things. I'd like to hear further arguments on this, and if the situation does fail to improve, I think we ought to be open to all those alternatives. As I said yesterday, I would consider lowering the rate on excess reserves. It's not a big deal, but it moves in the right direction at some point. And we're talking about possibly being more explicit on two kinds of paths. One is the path for future purchases, and the other would be the path for the federal funds rate.

So President Bullard is right. Optimal policy kinds of discussions say that you ought to tell people what you're going to do in the future. The Canadians have now moved to that. I don't think the uncertainty about the future path of purchases is any different qualitatively from the uncertainty about the future interest rates. So if we're going to start specifying the future path of purchases, we need to think about whether we should also be specifying future interest rates. The Committee has had trouble with doing that because of the sense of commitment, but it needs a thorough discussion before we go down that path.

I also have an issue with the cliff effect. I, too, thought that the major effect came from reducing the stock of debt in the hands of the private sector, not necessarily the pace at which we do it. I can imagine that the pace matters some, but it's mostly a stock thing. I don't know how important the cliff effect is.

How do we know when we've done enough? It's going to be really hard, and as President Lacker said, we are in territory that we've not been in before. We don't know what the metrics are. We're just going to have to factor everything through the forecast, discuss where the path of financial conditions is going and what the implications for the forecast are, and decide when we need to tighten. It isn't going to be easy. It never is. I hope that President Plosser is right and we come to that decision sooner rather than later. But my expectation right now,

looking at the projections that we submitted today, is that we are not going to be there any time soon. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. President Plosser.

MR. PLOSSER. Just to clarify the unemployment rate discussion, Governor Kohn, I think the difference in the language that you and I would use on this particular issue has to do with the fact that, even at 6½ percent unemployment, which was my forecast for the outyears, is above what I would consider the steady state. But that does not necessarily mean that monetary policy has some ability either to speed up that convergence or to alter it, and that's the difference between the models and the assumptions that we're talking about. That's the distinction.

MR. KOHN. Thank you.

MR. LACKER. And this is related. Governor Kohn, you described the forecast as unsatisfactory with respect to our mandated objectives. Is it unsatisfactory because a preferable outcome is feasible or because the feasible outcomes make us really unhappy?

MR. KOHN. I think we could move. There are actions we can take to move us toward preferable outcomes. I agree that monetary policy at the zero bound is really difficult, and we're not quite sure what the outcomes are for the levers we push. We're never sure when we push the federal funds rate lever, what the outcome is going to be. But I haven't given up on the possibility that monetary policy, even at the zero bound, can favorably affect the outcomes and get us closer to our legislative objectives. That is basically what we've been trying to do since December, and I think more of the same and maybe some innovations along several lines might be helpful. But, no, I think there are feasible actions we could take that would at least move us in the right direction.

CHAIRMAN BERNANKE. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. As I was saying yesterday on the economic outlook, my judgment is just that we're going to have to see more data at this point. As many people around the table noted, turning points are notoriously hard to predict. And when the economy is down, as Governor Tarullo and others noted, it is vulnerable to further shocks, which might come from directions that are not contemplated right now. I'm also probably more pessimistic about financial markets than most here. I think they probably have not improved all that much, and I guess I would not put too much weight on stock price movements. These are the guys that brought us the tech bubble, remember? They just fluctuate way too much to take them as much of a signal in the short term. So I think the basic mode for this meeting is that we probably need more information. As many people, including President Pinalto and others, emphasized, we'd like to see how these stress tests come out. This is a big near-term issue for the Fed, and we'd like to see what happens there.

A critical issue for this Committee is how the Fed bills are going to go and how they are going to move through the Congress, as the Chairman was talking about yesterday. I'd also like to hear more about interest on reserves and related issues—possible sterilization techniques—to be discussed at the June meeting. That may change the framework of discussion around here dramatically if we can think about those things and make more progress on those issues.

On policy, we were very aggressive last time—appropriately so, I think. Part of the argument around the table was that it was a timing issue with respect to housing and mortgage markets. I agree with Governor Kohn. We'd like to learn more about the effects of those actions as we go through the spring here. Any further commitments that we would make on asset purchases at this point would seem to apply mostly to a date in the future—say, the October–December time frame. To me it seems unclear why we would make that commitment based on

the information we have today. We could make that commitment at a future meeting when we have better information on how the economy is progressing. Also, alternative A, as I've been arguing, does something I haven't liked—it contains what seem to me to be arbitrary round numbers of asset purchases. I do agree with President Yellen that outcomes are certainly bad; and the fact is, as the Chairman was noting, in September–October this economy experienced a very large, very real shock, and the economy is going to have to adjust to that shock. Optimal policy can mitigate and help that adjustment, but it cannot offset it completely. So our job is to figure out how much and what is the optimal path that we can calculate that will help as much as we can help. But I think there are probably limits to what monetary policy can do in the face of a very large and global shock.

Of the many B alternatives, I like B'', but I'm willing to entertain the discussion around the table here. A lot of good ideas are being mentioned here on this. So as I said before, I would like to see policy expressed as a state-contingent rule to the extent possible. What we should have in our heads is a Taylor-type rule for asset purchases. In a Taylor-type rule you do not say what you are going to do with the funds rate in the future. You say, "Here's the rule; here's how we react to developments in the economy." Everyone understands this, this informs the entire equilibrium, and that's how the equilibrium works. We could maybe do the same kind of thing for asset purchases and say that this is how we are going to react to incoming events and on inflation, the output gap, and maybe other variables that we think are important, and that will inform the entire equilibrium and this is how we go forward. Inside models, that is actually the optimal way to proceed. I would like to try to get—and we have been doing a lot, and the staff has done a lot, which I appreciate—more in that direction in a difficult environment when we have a lot of challenges in front of us. So that would be one way to implement what I would

interpret as the key lesson from optimal monetary policy in the past 20 or 25 years in academic circles, as President Plosser and others have talked about.

I like the emphasis that the Committee has adopted in a lot of the discussion here that we're concerned mainly about the persistent components of balance sheet expansion—agency MBS, Treasuries, and agency debt—and that it is the key issue going forward. I like thinking of those as one group, which some of the staff memos did—it's a great way to think about it. I also have the idea that I floated a bit yesterday that, for the more temporary programs—the liquidity programs—to price them all as backstops just a little outside what would make all the volumes fall to zero. Those programs would stay in place, but then they would all get off the balance sheet, and you would not be clouding up your balance sheet with these temporary liquidity programs. They would still be there as a backstop; and if financial turmoil intensified, they'd be there to be used. But you'd have the idea that these things are used in time increments of weeks, not months or years. I think we should think about that, but maybe I'm the only one who thinks that we should.

The temporary expansion of the balance sheet or the monetary base or asset purchases even over many months is unlikely to have a meaningful effect on inflation in the medium term. We know that the effect of any policy depends importantly on the private-sector expectations of that policy—that is, on the whole policy path. If we do not define a policy path, the market will form expectations anyway and define a path for us, and so I think we should be clear in our own heads about what we are trying to do, what we think the optimal policy path looks like, and why. It's a state-contingent path. As I stressed yesterday, surprise announcements are not a characteristic of optimal policy as I understand it. Good policy is a state-contingent plan that is

well understood by the private sector. Most announcement effects tend to go away and might mislead us on what the impact of policy really is.

So I think the bottom line is that we should stand pat for today. We should get more information on the economy, on the stress tests, on the Fed bills possibility, and on other sterilization techniques. I'd also like to look into the backstop pricing for liquidity programs. I'll stop there. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Just for clarity, backstop pricing is part of our thinking on exit that we'll be talking about, Brian? Yes. President Rosengren.

MR. ROSENGREN. Thank you, Mr. Chairman. I had hoped that the actions taken at the last meeting would have had a larger impact on long-term rates, particularly the 30-year fixed mortgage rate. Our rates may fall further as the backlogs at mortgage brokers subside. I'd like to encourage the Desk to consider what additional institutional feature might facilitate pushing mortgage rates down further faster using markets in which we don't have much experience. As Trish highlighted in yesterday's discussion, there are a number of things that we don't directly affect, but we may be able to affect them indirectly. In fact, that may be more efficient than increasing purchases—to think about some of those institutional features and whether we can help adjust them.

In terms of the policy options, I prefer alternative B. I'd like to understand better the effect of existing programs before deciding what additional actions are necessary. If our mortgage-backed-security purchase program is successful in significantly lowering mortgage rates, that may have the stimulative effect we desire. However, even if that program is successful, the Bluebook simulations as well as those done by my staff make it clear that the optimal policy simulation would indicate that further actions are necessary. Like President

Yellen's, my forecast remains far from the goal for either inflation or unemployment. So the question for me is, What is the most effective way to try to get closer to achieving those goals? It's not clear to me right now what the most effective use of our balance sheet is if the goal is to reduce borrowing costs to consumers and businesses. I'm a little uncertain whether that's through more large Treasury purchases, whether that's more actions in the TALF, or whether that's doing something different in the mortgage market. Thinking that through might be more useful than expanding our balance sheet further at this time. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Fisher.

MR. FISHER. Mr. Chairman, I'm going to argue for alternative B, with only two minor editorial suggestions. But first I want to turn to the papers and suggestions of Presidents Plosser and Bullard and append what President Rosengren just said. I do think that Presidents Plosser and Bullard have identified a real weakness in our current formulation of communication of monetary policy, but I would respectfully submit that they failed to identify the solution.

What the public had before when we operated in simpler times and is now missing seems to me to be a sense of how we will adjust policy in response to shocks of various kinds. With the transmission of monetary policy to the real economy disrupted by the disarray in financial markets, the funds rate up against the zero bound, and our taking policy in new directions, I sense that the public—whether it's the public here, in China, or anywhere else that has invested in our markets—is still confused about what has been driving our decisions and what our next moves are likely to be, conditional on the evolution of the economy. The sense of confusion isn't so bad for our liquidity programs, as was implied by Presidents Plosser and Bullard. It has often been noted that these are a natural extension of our discount window function, and I think that's understandable. They are demand driven. They'll tend to unwind themselves as financial

conditions improve or normalize. But things get messy with our purchase of mortgage-backed securities and especially our purchase of longer-term Treasuries. I think that there is still a lack of clarity in understanding our intent here. Now, maybe it's just that I'm the only one who doesn't understand the clarity. I may be the only one confused, but I don't think that's the case. For example, what should the public expect? Should the public expect that the purchases of MBS will continue until the residential construction situation bottoms out, until home prices bottom out, until foreclosures stop rising, or until one or another of these economic variables actually turns around and starts moving in the other direction? Or should the public be told to expect that the purchases will continue until spreads between mortgage rates and Treasuries rates normalize?

Vice Chairman Dudley just now raised the issue of how we want the market to respond. Well, with regard to large-scale purchases of longer-term Treasuries, the hope apparently is that they will put some downward pressure on long-term private rates. That's the way we've stated what we've inferred. But how do we judge whether our efforts have been helpful, given that many other factors affect the rates we hope to influence? What interest rate spread are we supposed to be looking at? In this case, that's not clear to me. Do we just keep doing more and more until there's some unmistakable evidence that a recovery is under way? Again, I respect very much what Presidents Plosser and Bullard have put on the table, but it doesn't say very much to resolve the questions and the uncertainty that I've just raised. It is not clear to me what difference it will make whether we say our intention is to buy X billion by the end of the year or to purchase X billion per month or to increase our holdings at Y percent annual interest rate.

The lesson of history is that it's extraordinarily dangerous for a central bank to target any measure of real activity in setting its policy. So we certainly ought not to say that we're going to

pursue action A until home sales rebound, for example. It has also been proven dangerous for central banks to try to target longer-term interest rates. At least that's my reading of history. As Milton Friedman pointed out a long time ago, such attempts can all too easily lead to inflation or deflationary consequences. So that leaves spreads and/or a price and/or a price times a quantity and nominal values as an intermediate target. For MBS, as noted above, a spread might make sense, but what about longer-term Treasuries? It's not clear to me. And the Reifschneider–Roberts memo makes abundantly clear how little we understand the links between Fed purchases of longer-term Treasuries and inflation. We still need a good deal of clarity in our ability to state our exit strategy, and I know we're going to be talking about that later.

For the time being, given the questions I have, despite the good efforts of the Presidents from Philadelphia and St. Louis, I would strongly argue for alternative B. I think it would confuse the markets if we took the course outlined in alternative A. One thing that was pretty clear around the table yesterday, I counted eight people who mentioned the fact that, every time we go out to speak, people are worried about the long-term inflationary consequences of what we're doing with our balance sheet—again, whether it's in Beijing or someplace in Minnesota, because I remember Gary mentioned it as well. If we were at the point to expand our purchase of Treasuries, I think it would confirm suspicions that we're just hell-bent on monetizing government deficits. That is not our intention, but I think it would confirm those who have such suspicions. Second, I don't think it's necessary. We're only partially way through the program that we're trying to execute and we've agreed to execute now through autumn, previously over a period of six months. So we've changed that wording slightly. I think it would be a mistake, Mr. Chairman, despite sensitivity to President Yellen's arguments, to argue for alternative A.

With regard to two minor editorial suggestions, first, Brian, I appreciate the changes that were made. But just to be accurate and given what we've been hearing, I would add "and staffing" to the end of the sentence that begins, "Weak sales prospects." "Weak sales prospects and difficulties in obtaining credit have led businesses to cut back on inventories, fixed investment, and staffing." Indeed, that is what they've been doing. Then with regard to President Plosser's concern—and I think the concern of all of us—about anchoring inflation expectations and anchoring inflation, we could accomplish that by appending to the end of the very last sentence of that first paragraph, because we're talking about our policy actions, "will contribute to a gradual resumption of sustainable economic growth without sacrificing the Committee's long-term commitment to price stability." (A) That's true. (B) It would provide comfort to those who wonder if we are sacrificing our long-term commitment to price stability. The operative words in that sentence are that we continue to anticipate that our policy actions will contribute to a gradual resumption of sustainable economic growth. I would add "without sacrificing our longstanding commitment to price stability." That would address the concerns that I heard from many, many people, and I think, President Plosser, that would address your concern as well. Thank you, Mr. Chairman

CHAIRMAN BERNANKE. Thank you. President Evans.

MR. EVANS. Thank you, Mr. Chairman. At our last meeting, I favored the large-scale asset purchase option that was offered to the Committee. In fact, I asked for a little more. The reason was that I thought that we should get to the most appropriate policy and provide the support to the economy and the outlook so that we could plausibly stand pat if the outlook stabilized. I thought we should get to the best feasible outcome that we could support, and so at that time I understood \$300 billion to be \$300 billion unless the outlook or the markets changed

or something like that. Coming in, I thought that our action in March was close enough. We also have the TALF expanding and other support. With those actions, I thought that this pushed the burden for future policy actions to be based upon something in the outlook that was not currently anticipated, and in fact, I think the current Greenbook outlook is pretty stable. It has improved a bit and is consistent with this view.

So I favor alternative B, which I interpret as no change in our policy. If we decided that we thought we could do more to improve the outcome and we wanted to do more, I think that we should find the right level as quickly as possible today on the basis of what we know so that we can stand pat. I worry that meandering policy is not confidence inspiring. When we trigger a policy action, it should be on the basis of something we have learned about how the economy is evolving differently than we thought or there is actually news that normally would be interpreted as requiring that type of action. I am just concerned about how the public is going to gauge our policy changes in this most complicated environment.

Lastly, I do think there is a difference between our large-scale asset purchases as a policy instrument and our funds rate changes. It is not just future expectations of the fed funds rate. With the funds rate action, when we could do that, we could do it today or tomorrow. Markets understood that to be implemented by the Desk, and we were in that environment. Markets had more experience with that, and so they knew how to form expectations about policy, our response function. Now it's more difficult when it's unclear and there are reasons that it's unclear. We don't always agree exactly on how the transmission mechanism works in general and especially now. But with large-scale asset purchases, it takes up to six months for the action to be implemented because it takes place over a period of time. We ourselves don't really have good expectations of how those programs might change, and the public is even more challenged

in that way. The faster that we can get to the position that we think is best to support the best outcome that is feasible, the better off we are. So I think that alternative B at the moment is the right choice. Thank you.

CHAIRMAN BERNANKE. All right. I'll ask President Pianalto to go ahead, but then maybe we can take a coffee break. How about that? Go ahead.

MS. PIANALTO. I'll be brief. Thank you, Mr. Chairman. Given the high degree of uncertainty about the outlook and the uncertainty around how to size the quantity and composition of our asset purchases, I think the best course of action today is not to add any more uncertainty to this environment. I hope that our meeting in June will be helpful in reducing some of the uncertainty around our asset purchase program. So today I prefer making only minor changes to our statement, and I support alternative B. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Very efficient. Thank you. Why don't we take a 20-minute coffee break. Thank you.

[Coffee break]

CHAIRMAN BERNANKE. All right. Why don't we recommence. President Lockhart, whenever you are ready.

MR. LOCKHART. Thank you, Mr. Chairman. It is a challenge to be as succinct as President Pianalto. B. [Laughter] Actually, I am a little bit ambivalent, quite frankly, coming into this decision. As I said yesterday, I think that the economy is in an ambiguous state and there is a lot of uncertainty. I have sympathy for the arguments that President Yellen made that alternative A could actually tip the balance to better outcomes and improve on the forecast, which really isn't acceptable over the longer term. A negative, which President Fisher mentioned, is the likelihood that alternative A would be interpreted as closer to deliberate

monetization. So, as I said, I am supporting alternative B, and I favor adopting the language that helps establish a clearer understanding of policy conditionality over time.

I thank Presidents Plosser and Bullard for all their efforts because I think they drove that point home very strongly. So I strongly support the alternative B language that says that the Committee is prepared to make further adjustments in timing and overall amounts “as appropriate, in view of the evolving economic outlook and conditions in financial markets.” The full impact of March’s policy decision on real economic activity hasn’t yet been realized, and there is fiscal stimulus in train that is yet to be fully reflected. So as many others have stated, I would like to wait and see how the financial and economic environment evolves. That is it. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. President Stern.

MR. STERN. Thank you, Mr. Chairman. Well, on the consideration of A versus B, I prefer B for several reasons, which I will try to summarize quickly. First of all, I do think the economic outlook has improved a bit. Maybe it will turn out to be a false dawn, but maybe it will continue to improve. We will just have to see how that goes. More important, I think that policy has already done a lot, if you take a broad range of things that we have been engaged in and have introduced since the fall of ’07. That is not to say that we can’t or shouldn’t do more, if appropriate, but I think we need to bear in mind that we have been aggressive and reasonably timely, certainly over the last year or more. And I am not sure that there is all that much more we can do with regard to the outcomes associated with the dual mandate between now and the end of 2011—two and a half years. I am just not persuaded that a lot more activity on our part is going to have a major effect on how those numbers are going to look over that time frame.

I also am a little concerned, or I wonder, whether we would continue to get a lot of bang from increased asset purchases along the lines that we seem to think we have had so far. This can't be a free lunch. At some point, there have to be both a diminishing response in the market and increasing risks of adverse consequences for inflation or other things going forward. I think we need to bear that in mind, if and when we decide that we want to scale these things up even further.

So for those reasons, at this time, I favor alternative B. As far as language is concerned, I would be equally happy with B or B'''. I think either of those is fine, and I do think that tying our policy more explicitly to our inflation objective, along the lines that President Fisher or President Plosser suggested, would be constructive for the reasons they suggested. Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Warsh.

MR. WARSH. Thank you, Mr. Chairman. Just a quick intervention. First, I was extremely uncomfortable with the Treasury purchases when we last met. I continue to be extremely uncomfortable with them. I won't relitigate that here for the reasons I articulated last time; plus, I don't like losing. I don't want to lose again. [Laughter] So as Sun Tzu said, I will step back from that. It is no surprise, then, that I oppose an increase in our Treasury purchases beyond what we did last time. In terms of the discussion about markets and their expectations that we had earlier in this round, Mr. Chairman, I think we should not be surprised that markets want more; and the more we give, the more they will want. Having a strong, large, and credible buyer of Treasury securities is all to the good for a Treasury desk, and so I don't think we should be surprised by that at all. With that large caveat, I favor alternative B. I think that we should be patient. I think we should be the adults in town. We should favor as much policy certainty as we

possibly can have. We have an opportunity here not to be lurchy, not to be jumpy, and I think alternative B captures that.

I have one other area of discomfort with alternative B that I would raise. In paragraph 3, Mr. Chairman, after we denote in detail the numbers of our purchases, which really are just a restatement of what we did previously, we then go on to say, “The Committee stands ready to adjust the timing and overall amounts of its purchases . . . in view of the evolving economic outlook.” I think that the markets are unlikely to view that language neutrally. The sentence is new from what we said in March, and it looks to me as though, when last time we said that we stood ready to do something, we were standing ready to buy Treasuries if circumstances evolved, which we ultimately did. I view that as being quite forward leaning. In fact, it probably does match market expectations, which Trish rightly described. But it tends to pre-judge that outcome. At least if I am properly hearing our colleagues around the table, it is not a judgment that we want to make. And I continue to think that the last sentence in paragraph 3—where we say, “The Committee will continue to carefully monitor the size and composition”—certainly gives us that flexibility. That is the same sentence that we used in March, which gave us that flexibility. So I must say that I don’t really understand the rationale for including this new sentence about standing ready, particularly the reference to overall amounts of those purchases, until we have gone much further. So that is a particular area of discomfort on alternative B.

Finally, in the debate that is brewing about the limits of monetary policy in this cycle, I think I would associate myself with President Stern and suggest that we have accomplished much. On balance, what we have done over these past 18 months has been remarkable. If the next 18 months force the same kind of innovation and creativity by the Federal Reserve, we can almost guarantee that those projections we have submitted here in April aren’t coming to pass.

So this might be a proper time for us to be a bit more patient and to be a bit more hesitant to continue to push the envelope, and we will see whether or not the projections come to pass.

Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Duke.

MS. DUKE. Thank you. I am going to support alternative B. Although I agree with President Yellen that the forecast outcome is not desirable, I also agree with a number of others that I am not sure I understand right now the effectiveness of which programs. We are also in a situation where we are dealing with numerous programs, some of which we control the size and others of which we do not control the size, particularly if we look at the TALF and the expectation of the TALF going anywhere from \$100 billion to \$1 trillion, depending on what the take-up is. Right now, as we add the CMBS and we put it out there at five-year terms, we are going to limit the five-year terms to \$100 billion. It is not clear whether we would get additional growth on the three-year terms, so I would rather wait and see how that works out.

On the language, I think it is very difficult to come up with language that indicates a steady set of purchases for very different programs. If you look at the lumpiness that Trish pointed out in the mortgage markets—but even if you look at our statements—the \$300 billion purchases going to autumn versus the mortgage-backed securities going to the end of the year don't translate into even purchases from now until the end of the year. The mix would change. So, for those reasons, I would prefer the language in alternative B.

CHAIRMAN BERNANKE. Thank you. Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. I believe the problem with which we are confronted, as many of you have already noted, is fundamentally one of communication. I would elaborate that a bit to say that I think the problem may be in no small part our ability to

communicate to ourselves, individually and collectively, why we are doing what we are doing. I regard that as important because of what I said yesterday and what the Chairman mentioned this morning in the conclusion to his wrap-up, which is that we may be faced with a suboptimally performing economy for some time to come in which the policy challenges will extend beyond the challenge of readjusting our balance sheet over a number of years. Under these circumstances, it becomes more important that we have a clear sense of what policy instruments we think are available and why and how we are going to deploy them in response to a given set of conditions.

Based on listening to the March meeting discussion and this meeting's discussion, I do not feel that we are actually in a position to articulate a standard that is roughly comparable to what is articulated when normal monetary policy is being done. Under those circumstances, I favor saying the least because my concern is that saying more will lead to inferences that we don't actually want people to draw. So, for example, by adopting a more forward-leaning strategy such as alternative A this morning, I fear that a message would be sent as to how exactly we are reading the green shoots versus the red herrings debate. I fear that there would be an inference drawn that we have concluded that we know how the Treasury purchases are actually functioning and we have some reason to believe that they will respond to what we think the most important problems in the economy are. Like Governor Warsh, I do fear a bit that an inference will be drawn as to our being more willing to accommodate the fiscal policies that are being pursued right now, which I think is not something that any of us has decided we want to communicate. This is not to say that I would be opposed to increased purchases of Treasuries or, indeed, any other number of policy instruments, but only once we are in a position to

communicate with enough specificity, either in our statements or through other means of communication, so as to guard against those kinds of inferences being drawn.

On the merits, I think that President Yellen stated the economic conditions better than I could, and I subscribe to her analysis. On the outcomes, I favor alternative B, and I should say I guess that I favor alternative B with as little change from the March policy statement as is possible, given that we are now in a later month, precisely to avoid any of the inferences that I suggested could be wrongly drawn being in fact drawn. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Mr. Chairman. I have some sympathy with President Yellen's case for expanded purchases, but I think that we have to recognize that these purchase programs have costs as well as benefits. Speaking for myself, I would really feel more comfortable if we had a more formal evaluation of what those costs and benefits were regarding what we have done up to now. One cost that I don't think we have ruminated on very much is the interest rate risk that we are actually taking on the Fed's portfolio. One thing I have wondered about is, if the balance sheet were to get \$6 trillion and most of that was Treasuries and MBS, what would happen if short-term rates rose above the yield on our portfolio? What would happen if we were asking the Treasury to pay us money because we had negative interest? In a way, we are turning ourselves into a kind of S&L in terms of our balance sheet structure, and we really need to think about what the implications of that are for the medium and longer term. So I would encourage the staff to do analysis on those kinds of issues for the June meeting.

The second reason that I don't think it is appropriate to do it right now is that it would send an odd signal to the market. We are saying that things are better, yet we feel the need to

expand our purchase programs in a way in which the market was not anticipating us to do. So I think it would be a little confusing to the market. I think the market is expecting us to do something in June about Treasuries because of the cliff question. In other words, what happened? It is a six-month program. The market is going to start looking ahead to what happens at the end. We need to do more to get clear on how we think about these cliff effects. It is not quite the same as the federal funds rate because you could argue that ending the purchase program is de facto tightening. You are taking away something that is pushing down rates, so I don't think it is quite the same as specifying the federal funds rate path. It is a lot different, too, because there is so little experience with it. We have had many, many economic cycles in which to get a sense of the federal funds rate—you know, market prices, futures expectations, et cetera—but I think we need to do some more work on this whole cliff effect. I think the market implicitly assumes that we are going to taper off and smooth the rough edges. I notice that, in the balance sheet simulations that were put forward yesterday, it went to the end and just ended abruptly. I don't think that is really what the market expectation is. I think they expect us to round those off. But we haven't really discussed that formally as a group, and we need to come to some conclusions on that.

As far as the choices for the statement, I favor the B alternatives—you know, B', B'', and B'''. I am not sure what is gained by the added details. The market participants can already calculate the monthly purchase rates by just taking what we have announced about duration and magnitude. I also think that writing down specific monthly purchase rates implies that the growth rate of the balance sheet is the prime metric driving our thought process. I don't really think that is right. We are really thinking more about the effect on financial conditions. And I don't think a dollar of Treasury purchases is necessarily the same as a dollar of agency purchases

or agency MBS or some other things that we are doing with our balance sheet. So I don't want to suggest that a dollar of the balance sheet is created equal across all our different facilities. Finally, if we added some more detail, it would be a little confusing to people because they would say, "Well, why are they telling us this now? Why didn't they tell us this a meeting ago, two meetings ago, or three meetings ago?" So I think it would be more confusing than illuminating to the markets. Thank you.

CHAIRMAN BERNANKE. Thank you. All right. Well, I again have benefited from a good discussion. I think the policy discussions—don't take this the wrong way—are getting better. [Laughter] I think they are getting more informative and more interesting as we go along. And I do appreciate it.

On the substance there is a good bit of consensus—not complete consensus—on standing pat. We have seen a bit of improvement, but it is very tentative, and other factors, like the bank assessment program and fiscal policy, are in train. So there is some benefit in watchful waiting for a time. We have, of course, taken very strong actions in the last few meetings, including a December move to zero and the large asset purchases that we announced last time. Also, before substantial increases in our balance sheet, I think many of us—certainly, I—feel that we need to get further advanced in our understanding of the exit strategy and the tools we will have and what we will be doing as we go forward. So understanding that more stimulus would be good, as suggested by the Taylor rule, for example, I think that it would be better to stand pat on the purchases this time.

With respect to the statement, I appreciate very much the discussion on alternative B'' and so on. I think the consensus for the group was to stay with what we have. The issue here is that we haven't quite figured out how to express the state contingency. If we had a Taylor rule

that would tie the monthly purchases to observables, as President Bullard was suggesting, I think that would be right and good. Unfortunately, the only way to establish such a rule is through a long period of experience, unless we are prepared to write it down, which I am not quite sure we are. Another issue related to that is—the analogy is not perfect—whether it is the flow of purchases or the stock of purchases that matters. That is a question. Given our inability to write down a contemporaneous Taylor rule, another alternative approach that one might use in an interest rate context would be to specify a path and then to change that path as new information comes in. That is part of the debate between instruments and target rules, for example.

So as I said, I very much appreciate the insight and discussion of this issue, and I hope we will continue to make progress. I would take some exception to the view that we are making up numbers entirely, because we have done our best—and the staff has certainly done its best—to try to assess the market and interest rate effects of these actions and feed them into the model. Obviously, there is a lot of uncertainty, but being uncertain doesn't mean you do nothing. It means you do the best you can, given the information that you have.

On state contingency, Governor Warsh raised the concern about the new sentence, three from the bottom, that “the Committee stands ready to adjust the timing and overall amounts of its purchases of securities.” Governor Warsh, is your concern that this signals that we are going to increase? My thought about this was that it would in fact signal that we are being state-contingent and that this would be equally likely to induce us to decrease as to increase.

MR. WARSH. In light of our behavior and the language around our behavior historically, I think that markets would read this as going in one direction and the one direction is far more likely up. Again, I think the overall amount certainly triggers it. And I must say that I don't understand what that sentence does that isn't accomplished in the final sentence.

CHAIRMAN BERNANKE. Well, the way I thought the two sentences were different is that the first one speaks specifically to the securities purchases, which is the topic immediately before it, and it creates for us the flexibility to adjust the timing, for example, to taper off or, for that matter, to adjust the size of the program. I view the last sentence as addressing the static overall size and also, when we say “composition,” as implying that we are looking at the mix of programs and so on as well as the securities purchases. So that was the intent. Are others uncomfortable with that sentence? President Lacker?

MR. LACKER. I am, too. I made the mistake, when I initially read it, of reading the plain language version as symmetrically contingent. But I think Kevin is fairly persuasive that, in the context of our statement, it is likely to be read as pointing toward the possibility of expansion. Now, there are times in which the appropriate contingency ought to be asymmetric, but I don’t think we intend to communicate that here.

CHAIRMAN BERNANKE. Governor Kohn.

MR. KOHN. Governor Warsh had a point about the words “stands ready,” which we did use before. Suppose we soften those words a little and say, “The Committee will consider adjusting the timing and overall” so that it sounds like something we will consider in the future rather than we are poised to do it. I don’t know whether that would help, Governor Warsh.

MR. WARSH. Yes, I do think that helps.

MR. PLOSSER. How about just “evaluate”?

MR. LACKER. “May consider”? “Adjusting somewhat.” [Laughter]

CHAIRMAN BERNANKE. “Will consider”—was that what you said?

MR. KOHN. That is what I said, and President Plosser said “will evaluate”—“the timing and overall amounts of its purchases.”

CHAIRMAN BERNANKE. Okay. But get rid of “as appropriate.” “The Committee will evaluate the timing and overall amounts of its purchases in view of the evolving economic outlook.”

MR. KOHN. Everything we do is appropriate. [Laughter]

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. I think that is an improvement, but I still think—and I regret not mentioning this myself—that Governor Warsh makes a key point. Given what Trish told us in terms of expectations, even though I don’t like being driven because, as it was pointed out earlier, the markets and the dealers are never satisfied. But even with softening language like that, it is new, and you are opening up the door. I don’t think you should put it in here.

CHAIRMAN BERNANKE. Okay. Are there any defenders of that sentence? All right. Seeing none—yes? No?

MR. PLOSSER. I kind of like it. [Laughter]

MR. EVANS. I kind of like it, too.

CHAIRMAN BERNANKE. Well, I am prepared to strike it, if that is the will of the group.

MR. HOENIG. I kind of like it as well, but I thought it gave us some flexibility to say, “We won’t go as far.” If this doesn’t serve that purpose—and I think I would defer to you, Kevin, on this, because I hope that conditions evolve so that we don’t have to go to the total—then I would back away.

VICE CHAIRMAN DUDLEY. I agree with Governor Warsh that the market thinks that the prospect of taking down the size of the facilities is extremely low.

MR. HOENIG. Okay. So then I would strike it.

CHAIRMAN BERNANKE. President Bullard.

MR. BULLARD. Mr. Chairman, I liked your explanation that you thought you had two bases covered here. That is the way I read it. I didn't read it the way Governor Warsh did.

CHAIRMAN BERNANKE. Okay. I am going to propose a modification, and then we are going to take a straw vote. Okay? The modification is, "The Committee will continue to evaluate the timing and overall amounts of its purchase of securities,"—get rid of "as appropriate"—"in light of the evolving economic outlook and conditions in financial markets." Is that an improvement, Governor Warsh?

MR. WARSH. Yes.

CHAIRMAN BERNANKE. All right. So let me ask all participants, all 1 people, for a "yes" or "no"—or feel free not to vote. [Laughter] All right. So how many would like to retain that sentence as amended? One, two, three, four, five, six, seven, eight, nine. Ten? Okay. Well, that is a majority then. So the sentence will be changed to, "The Committee will continue to evaluate the timing and overall amounts of its purchases of securities in light of the evolving outlook and conditions in financial markets."

As for the other suggestions that were made for paragraph 1, President Fisher made a suggestion close to this, and I was thinking how to respond to President Plosser's concern about balancing our concerns about growth and price stability. I am not quite sure that President Fisher's suggestion of saying "without sacrificing" quite works because the causal factors in that last sentence in paragraph 1 include not only the Fed but also fiscal and monetary stimulus, market forces, and a whole variety of things. What if we add to the end of alternative B, paragraph 1, the words "in a context of price stability"? So it would say, "The Committee

continues to anticipate that these various factors will contribute to a gradual resumption of sustainable economic growth in a context of price stability”?

MR. PLOSSER. My concern was that we wanted to link our policy actions that we believe are consistent with our objective of price stability. Mr. Chairman, your suggestion doesn't link the two necessarily. It just places it in a context. I am struggling a bit with what the right language might be.

CHAIRMAN BERNANKE. But the first sentence of paragraph 3, though, says, “Will employ all available tools to promote economic recovery and to preserve price stability.” So that links our tools.

MR. PLOSSER. Okay.

CHAIRMAN BERNANKE. Is this last phrase helpful to you, President Fisher?

MR. FISHER. I agree with your point because it does talk about fiscal and monetary stimulus. I appreciate the fact that we at least make some reference to price stability, and I think that is the important point.

CHAIRMAN BERNANKE. All right. If everybody is okay—

MR. PLOSSER. So you are going to add that sentence.

CHAIRMAN BERNANKE. I am going to add the phrase at the very end of paragraph B1, the words, “in a context of price stability.” All right. The last thing that came up, President Fisher suggested in the third sentence of alternative B, “Weak sales have led businesses to cut back on” then, instead of “inventories and fixed investment,” have “inventories, fixed investment, and staffing.” I think that is fine substantively. The only thing I would note is that we do reference job losses in the previous sentence. So does anyone have a view on that? I am happy to make the change. All right. Shall we go ahead and make the change? Is that okay?

All right. So “inventories, fixed investment, and staffing.” Do you have all of those changes now? Are there further comments?

MR. LACKER. Mr. Chairman?

CHAIRMAN BERNANKE. Yes. President Lacker.

MR. LACKER. The word “somewhat” in the first sentence just snags my brain.

CHAIRMAN BERNANKE. We don’t want that. [Laughter]

MR. LACKER. “Somewhat” is great the way we usually use it—you know, somewhat higher, somewhat lower. That is a long and honored tradition in central banking. [Laughter] But “slowing somewhat”—

CHAIRMAN BERNANKE. How about “appears to be somewhat slower”?

MR. LACKER. That would be much more direct.

CHAIRMAN BERNANKE. I guess that pace requires an adjective—appears to be somewhat slower, the pace is slower. Isn’t that right?

MR. LACKER. I am not a good enough writer to know why.

CHAIRMAN BERNANKE. Isn’t that right, Brian? Okay. “The pace of contraction appears to be somewhat slower.”

MR. LACKER. Perfect.

CHAIRMAN BERNANKE. Any grammarians with concerns? You know, this is actually kind of fun here. [Laughter] I have always enjoyed it. Other comments? All right. Debbie, do you think you are able now to read the statement?

MS. DANKER. I will give it a shot, and the eventual vote will be on both the alternative B directive from the Bluebook—I don’t think it is affected by this language change—and the statement that I am about to read. Please correct me if I don’t have it right.

“Information received since the Federal Open Market Committee met in March indicates that the economy has continued to contract, though the pace of contraction appears to be somewhat slower. Household spending has shown signs of stabilizing but remains constrained by ongoing job losses, lower housing wealth, and tight credit. Weak sales prospects and difficulties in obtaining credit have led businesses to cut back on inventories, fixed investment, and staffing. Although the economic outlook has improved modestly since the March meeting, partly reflecting some easing of financial market conditions, economic activity is likely to remain weak for a time. Nonetheless, the Committee continues to anticipate that policy actions to stabilize financial markets and institutions, fiscal and monetary stimulus, and market forces will contribute to a gradual resumption of sustainable economic growth in a context of price stability.

In light of increasing economic slack here and abroad, the Committee expects that inflation will remain subdued. Moreover, the Committee sees some risk that inflation could persist for a time below rates that best foster economic growth and price stability in the longer term.

In these circumstances, the Federal Reserve will employ all available tools to promote economic recovery and to preserve price stability. The Committee will maintain the target range for the federal funds rate at 0 to $\frac{1}{4}$ percent and anticipates that economic conditions are likely to warrant exceptionally low levels of the federal funds rate for an extended period. As previously announced, to provide support to mortgage lending and housing markets and to improve overall conditions in private credit markets, the Federal Reserve will purchase a total of up to \$1.25 trillion of agency mortgage-backed securities and up to \$200 billion of agency debt by the end of the year. In addition, the Federal Reserve will buy up to \$300 billion of Treasury securities by autumn. The Committee will continue to evaluate the timing and overall amounts

of its purchases of securities in light of the evolving economic outlook and conditions in financial markets. The Federal Reserve is facilitating the extension of credit to households and businesses and supporting the functioning of financial markets through a range of liquidity programs. The Committee will continue to carefully monitor the size and composition of the Federal Reserve’s balance sheet in light of financial and economic developments.”

CHAIRMAN BERNANKE. That is what I have as well.

MS. DANKER.

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. We have a couple of other items here—one substantive item. We have, as you know, a Transparency Committee, which has been very actively investigating all aspects of our programs, our institutional structure, and everything else to try to find whether there are opportunities to provide more information to the public about our activities that would not compromise our legitimate need for confidentiality of our policy objectives. I asked Governor Kohn to report to us briefly on progress in that committee.

MR. KOHN. Thank you, Mr. Chairman. Let me begin with a bit of a sidebar, which is that the work of the Transparency Committee of this group is to decide what should be public and what needs to be confidential. In that regard, I found an article in the *Financial Times*, in which somebody seemed to have seen a staff paper, to be troubling. So I think we need to decide as a group what information gets out and what doesn’t and preserve that confidentiality.

What we've been doing is considering a number of possible steps to improve transparency for our liquidity programs. We've been concentrating on the collateral side. What can we say to reassure people that we are behaving in a responsible way and that we are not putting the public's money at risk? We were embarked on this for a couple of weeks, but I would say that congressional pressure on this issue has stepped up. Also in recent weeks we have had requests for detailed data on individual borrowers, and the budget resolution had two amendments related to us. One was a Dodd–Shelby amendment, which called on the transparency side for the reporting of the amount and nature of collateral in the liquidity facility; the extent of losses on the Maiden Lanes and other special purpose vehicles due to collateral revaluations; information on the number of borrowers under various programs, including measures of concentration; and then information on contracts that we have with private-sector firms involved in design, pricing, management, and accounting of the lending programs. We are addressing all of those points, and I think our proposal, when it finally gets done, will satisfy the Dodd–Shelby amendment. In addition, Senator Sanders asked for the identity of firms receiving liquidity assistance and the value of the assistance each firm had gotten and what they were doing with the assistance. We are less inclined to do that because our view is that it will undermine the effect of the program. So we can come back. I would be interested in the views of other members of the FOMC on that.

We are preparing tables on the number of borrowers and the amounts of discount window borrowing by type of institution at the discount window for banks divided by banks (and maybe by size) and then thrifts as a separate line—for example; the number of borrowers and amounts borrowed under the other facilities, PDCF, TSLF, all of that sort of thing. Trying to get some sense of the concentration and those things, like the top five borrowers, the top ten borrowers,

what proportion of the total they account for, a table showing the percentage of the collateral pledge by depository institutions being used to secure loans by different types of institutions. We do have a breakout of the types of collateral now, but we would break out things a bit further, particularly on the security side, where we will give the ratings of the securities that are used as collateral. And we're working on this business of how much we spend on the private-sector firms.

We published a lot of information about the Maiden Lanes and the commercial paper facility in the annual report that just came out a couple of weeks ago, and one thing we're looking into is whether we could update that information quarterly. So when the Maiden Lanes are marked to market on a quarterly basis, perhaps some of the additional information that appeared in the annual report could also be done on a quarterly basis. It wouldn't be subject to the oversight of an outside auditor, but we could generate it in the same way we generate that.

Now, as I said, we've discussed the congressional request about detailed information on individual borrowers, and we looked at different ways of cutting that. So could we not do it for the discount window for banks but do it for the unusual—the 13(3)—facilities? Could we not do it for the regular discount window but do it for any unusual facility, which might include the TAF? Could we do it for some facilities but not for others because of our concerns about stigma, particularly for the TALF, for example? It just seemed impossible to cut this thing in a clean way that would satisfy the people who want information and wouldn't discourage the use of the facilities in such a way as to undermine the effectiveness in promoting financial stability. But I would be very interested in other people's views on this. Another problem that we saw was that most people, especially banks and probably others, have used our facilities under the assumption that their names wouldn't be released to the public. So going back and releasing those names

struck me as particularly problematic. If we were going to release any names and we decided that was okay, I think I would advocate doing it prospectively and giving people warning. We're aiming at getting something done that the Chairman can talk about in his JEC testimony next week. Is that right?

CHAIRMAN BERNANKE. Tuesday.

MR. KOHN. Next Tuesday. So at least have an outline of what we're trying to do—we are getting close; we've been mocking up tables—and then get those tables out within the next week or two after your testimony, Mr. Chairman.

That's the summary of where we are. One idea that the Chairman had was whether, instead of just adding all of this stuff to our web site, we could embody it in a report to the Congress on a monthly basis. Our web site is sort of by function. So there's a risk-management function, and then there are some other, different functions. We could re-cut it so that it was by facility instead of by function. Under each facility we could talk about the risk-management characteristics, how we value the collateral marked to market, do the margins, and then give all the information on that. That might be a more user-friendly way to present things to the Congress.

CHAIRMAN BERNANKE. Okay. We have time now for questions and comments. President Lacker.

MR. LACKER. If we elect not to reveal names, would these tables be constructed the way that the Census does it, where if there are fewer than n firms, where n is a number like—

CHAIRMAN BERNANKE. Three.

MR. KOHN. Right. I think the way that we have generally released data in the past, if there were three or fewer, we would consolidate that category with another category.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. I am concerned about the releasing of names and Don's point, that you can't renege on assumptions and promises made earlier. Tactically, I don't know what you're planning to say next week, but I would rather be viewed as being forced to do this rather than suggesting it terms of releasing names prospectively going forward because one of the great concerns is—we've seen this with the TALF and with the PPIP and everything else—the rules keep changing. I don't want to be viewed as one of the agents of changing the rules in a way that upsets people who have banked on us to be a steady institution. I would just suggest that we be very careful about that and think that through. Now, the Congress has its prerogatives. I'm not sure we want to feed that one. I would rather almost be in a responsive mode.

I am a little worried that, if we don't respond sufficiently, they could be extremely harsh, and maybe—Don, you summarized an awful lot there. We were talking about feeding the monsters of the market earlier. Feeding the monsters of the Congress is also saying that you can never really satisfy them. I'm not calling them monsters for the record, but they have a voracious appetite. I would be really careful on this business of suggesting that we release names. If we're viewed as the one who suggested it, it might upset the people whom we serve and who are important to our ability to function. So I'd just ask you to consider that.

The other obvious trap—and I saw this on the visiting committee overseeing Harvard's investment debacle—whenever you talk about what you're spending on something in the private sector, it's always going to be too much. So just get ready for that one because you can't satisfy people very easily on that. It is always too big a dollar amount. But that's obvious.

MR. STERN. But some of those fees are in the annual report, aren't they?

MR. KOHN. I don't know. I don't think they're aggregated. I mean, they must be implicit in the expense categories, right? But they're not broken out by the fees that we're paying for servicing these special facilities.

MR. WARSH. I think except for the audit fees.

CHAIRMAN BERNANKE. Except for the audit fees.

MR. LACKER. I thought they were for the Maiden Lanes.

MR. STERN. Yes, I thought they were for the Maiden Lanes.

MR. LACKER. Not individually, but for each Maiden Lane I thought there was an expense line.

MR. KOHN. But we've hired outside help—right, Bill—for a lot of the other facilities?

MR. LACKER. Right, but that's varied.

CHAIRMAN BERNANKE. President Hoenig.

MR. HOENIG. Just to add to that, we should not release the individual names. You will undo half of what you have tried to do so far. As open as we should be, we also have a responsibility to make sure this thing is managed in an orderly way, and if we release names, I think the stigma will be back in a flash and lots of issues around it. So I agree with those comments.

CHAIRMAN BERNANKE. President Stern, did you have your opportunity? Yes. President Lacker.

MR. LACKER. If the Congress wants to make us release names, we could insist that the names of Home Loan Bank borrowers also be released.

CHAIRMAN BERNANKE. Don't get them started. [Laughter] Other comments or questions for Don? Well, we appreciate your taking this on in your voluminous spare time. It's

very important. Our approach, it was suggested, is to do as much as we reasonably can and then try to draw the line at that point. That's how we're going to try to approach this.

I just have a few announcements, and then we will be free. First, you have until tomorrow at 5:00 p.m. to submit your revisions, if you have any, to your projections. Second, you'll see an SDS transmission on your BlackBerry because we are putting up links to the 2003 transcripts—a very interesting set of transcripts of the FOMC meetings—which will be released publicly on Friday. So they are confidential until Friday. Finally, I know there are ongoing conversations about the stress test, the capital supervisory program, but we have already scheduled a video meeting on Friday for an update and how we're going to manage things on Monday. That doesn't mean that's the only opportunity if you have particular banks that you are concerned about or you want to hear more about what is going on. Please don't hesitate to get in touch with us, but we thought Friday would be a good time to bring everybody up to date.

Okay. Again, lunch will be available in about five minutes for those who can stay. The next meeting will be on Tuesday and Wednesday, June 23 and 24, and the meeting is adjourned. Thank you.

END OF MEETING