

**Meeting of the Federal Open Market Committee on
December 15–16, 2008**

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 Monday, December 15, 2008, at 2:00 p.m., and continued on Tuesday, December 16, 2008, at 9:00 a.m. Those present were the following:

Mr. Bernanke, Chairman
Ms. Duke
Mr. Fisher
Mr. Kohn
Mr. Kroszner
Ms. Pianalto
Mr. Plosser
Mr. Stern
Mr. Warsh

Ms. Cumming, Messrs. Evans, Lacker, and Lockhart, and Ms. Yellen, Alternate Members of the Federal Open Market Committee

Messrs. Bullard, Hoenig, and Rosengren, Presidents of the Federal Reserve Banks of St. Louis, Kansas City, and Boston, respectively

Mr. Madigan, Secretary and Economist
Ms. Danker, Deputy Secretary
Mr. Skidmore, Assistant Secretary
Ms. Smith, Assistant Secretary
Mr. Alvarez, General Counsel
Mr. Ashton,¹ Assistant General Counsel
Mr. Sheets, Economist
Mr. Stockton, Economist

Messrs. Connors, English, and Kamin, Ms. Mester, Messrs. Rolnick, Rosenblum, Slifman, and Wilcox, Associate Economists

Mr. Dudley, Manager, System Open Market Account

Ms. Johnson,² Secretary, Office of the Secretary, Board of Governors

Mr. Cole, Director, Division of Banking Supervision and Regulation, Board of Governors

Mr. Frierson,² Deputy Secretary, Office of the Secretary, Board of Governors

¹ Attended Tuesday's session only.

² Attended the portion of the meeting relating to the zero lower bound on nominal interest rates.

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

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

Messrs. Clouse and Parkinson,¹ Deputy Directors, Divisions of Monetary Affairs and Research and Statistics, respectively, Board of Governors

Messrs. Leahy,² Nelson,³ Reifschneider, and Wascher, Associate Directors, Divisions of International Finance, Monetary Affairs, Research and Statistics, and Research and Statistics, respectively, Board of Governors

Mr. Gagnon,² Visiting Associate Director, Division of Monetary Affairs, Board of Governors

Ms. Shanks,² Associate Secretary, Office of the Secretary, Board of Governors

Messrs. Perli and Reeve, Deputy Associate Directors, Divisions of Monetary Affairs and International Finance, respectively, Board of Governors

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

Ms. Goldberg,² Visiting Reserve Bank Officer, Division of International Finance, Board of Governors

Mr. Zakrajšek,² Assistant Director, Division of Monetary Affairs, Board of Governors

Messrs. Meyer² and Oliner, Senior Advisers, Divisions of Monetary Affairs and Research and Statistics, respectively, Board of Governors

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

Messrs. Ahmed and Luecke, Section Chiefs, Divisions of International Finance and Monetary Affairs, respectively, Board of Governors

Ms. Aaronson, Senior Economist, Division of Research and Statistics, Board of Governors

Messrs. Gapen and McCabe,² Economists, Divisions of Monetary Affairs and Research and Statistics, respectively, Board of Governors

Ms. Beattie,² Assistant to the Secretary, Office of the Secretary, Board of Governors

¹ Attended Tuesday's session only.

² Attended the portion of the meeting relating to the zero lower bound on nominal interest rates.

³ Attended the meeting through the discussion of the zero lower bound on nominal interest rates.

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

Mr. Werkema, First Vice President, Federal Reserve Bank of Chicago

Mr. Fuhrer, Executive Vice President, Federal Reserve Bank of Boston

Messrs. Altig, Hilton, Potter, Rasche, Rudebusch, Schweitzer, Sellon, Sullivan, and Weinberg, Senior Vice Presidents, Federal Reserve Banks of Atlanta, New York, New York, St. Louis, San Francisco, Cleveland, Kansas City, Chicago, and Richmond, respectively

Mr. Burke,² Assistant Vice President, Federal Reserve Bank of New York

Mr. Eggertsson,² Senior Economist, Federal Reserve Bank of New York

² Attended the portion of the meeting relating to the zero lower bound on nominal interest rates.

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December 15, 2008—Afternoon Session

CHAIRMAN BERNANKE. Good afternoon, everybody. We welcome Chris Cumming, who is sitting in for New York. As you know, under the extraordinary circumstances we added an extra day to the meeting. The purpose of the meeting taking place today is to discuss the zero lower bound and related policy and governance issues, and I hope that the discussion today will set up our policy decision for tomorrow.

Just for preview purposes, the program today will start with Bill Dudley and Q&A. We'll then have a staff presentation on the zero lower bound and alternative policies. We'll have a go-round on those issues, including nontraditional policies and communications associated with it and so on. Let me just mention that on the agenda for tomorrow, after the policy decision, we have the subcommittee's report on long-run projections and the quarterly projections. We put that there to save time and to make sure that we met our deadlines; but obviously there's some linkage between that and the discussion today, and if anyone wants to bring that up today, please feel free to do so. Finally, if we're very efficient—as I hope we will be—I'd like to get to the staff economic briefing at the end of today, if possible—if not, not—and then there's dinner afterwards. So without further ado, let me turn to Bill Dudley. Bill.

MR. DUDLEY.¹ Thank you, Mr. Chairman. Unfortunately this package is a little thicker than usual, but that's the way it goes, I guess. The stimulus provided by monetary policy to the real economy depends not only on the level of the federal funds rate but also on the health of the financial system. The ability of market participants to intermediate and act effectively as the transmission channel between the change in the federal funds rate target and financial asset prices is critical. When bank and dealer balance sheets are constrained as they are now, this transmission mechanism is impaired, and traditional monetary policy instruments become limited in their ability to support economic activity.

¹ The materials used by Mr. Dudley are attached to this transcript (appendix 1).

The recent sharp deterioration in the macroeconomic outlook and the forced deleveraging of the nonbank portion of the financial sector have led to sharp declines in asset values during the past few months. The consequence will be further big mark-to-market losses for investment and commercial bank trading books and a significant increase in loan-loss provisions on commercial bank loan books. These losses are likely to intensify the vise on financial firm balance sheets, and that is likely to further impede the Federal Reserve's efforts to ease financial conditions. As a consequence, a broadening of our suite of liquidity facilities that bypass banks and dealers may prove to be necessary.

Equities, corporate debt, and securitized assets—especially commercial-mortgage-backed securities (CMBS)—have all been hard hit, and the commodity sector, the preferred asset class of choice earlier in the year, has been clobbered. As shown in exhibit 1 of the handout, U.S. equity prices fell sharply beginning in September. Although the aggregate indexes have bounced off their low points, the S&P 500 index had still fallen 30 percent between the end of August and the end of November. This is the relevant quarter for Goldman Sachs and Morgan Stanley, which report this week. In the current calendar quarter, despite the rebound, the S&P 500 index has declined about 25 percent. The carnage has also been evident abroad, especially in emerging markets. The corporate debt market has scarcely been more hospitable. The high-yield corporate bond yield for some broad indexes has climbed above 20 percent (exhibit 2). Assuming a 20 percent recovery rate on defaults, yield levels in this sector appear to fully discount a default experience consistent with the peak reached in the Great Depression. The securitization markets have performed little better. Not only are most securitized markets shut to new issuance, but also the yields on even the highest-rated outstanding tranches have climbed sharply. Exhibit 3 illustrates the current spreads for different types of AAA-rated consumer securitizations—credit cards, auto loans, and student loans. Exhibit 4 illustrates the sharp deterioration in valuations in the CMBS market. The left panel shows spreads on a basket of post-2003 vintages. The right panel shows the price performance of particular AAA-rated CMBS tranches. Most have fallen about 20 points in the past quarter.

Commodity prices also continue to plummet. As shown in exhibit 5, the declines have been particularly pronounced in the energy and industrial metals sectors. In contrast, gold prices have held up quite well (exhibit 6), especially since the October FOMC meeting. Gold prices presumably have been supported by the drop in global short-term interest rates, which reduces the carrying cost of owning gold. It is also possible that gold is viewed as a hedge against the risk that central bank policy actions could ultimately prove inflationary. Presumably, the fear may be that the exit from these policies could be delayed or prove more difficult to engineer than generally anticipated.

This poor performance of financial and real assets has a number of important implications. In particular, the earnings of most major financial intermediaries will be very poor this quarter. For example, the two investment banks that report this

week are almost certainly likely to record large mark-to-market losses. The *Wall Street Journal* reported earlier that Goldman Sachs will report a loss of around \$2 billion when it reports tomorrow morning. This may actually understate the carnage because compensation booked for previous quarters can be reversed and the reversal of income taxes paid will reduce the size of the loss. Commercial banks will also not be spared when they report next month. Not only will they have significant losses on their trading books, but also loan-loss provisions are likely to climb sharply. JPMorgan indicated last week that the current quarter has been terrible, and they have been one of the best-performing commercial banks.

The sharp decline in asset prices is also likely to reinforce the deleveraging process that is occurring throughout the financial sector. Although hedge fund performance in November was better than in the previous months, preliminary figures show that the aggregate index continues to slide (exhibit 7). We're down about 17 or 18 percent so far this year, and that's the worst performance in hedge fund history in the aggregate by a significant margin. Although the redemption deadlines for year-end have generally passed, this pressure will persist into the first quarter and beyond for two reasons. First, many fund-of-funds managers will get another round of redemption requests before year-end, which will cause them to ask for monies from the hedge funds that are part of their fund-of-funds families in the first quarter. Second, some hedge funds restrict or "gate" the rate of withdrawals. For example, Citadel suspended all redemptions for their two biggest funds through March 31. This means that there will be a backlog in unfulfilled requests that will take time to satisfy. The Bernard Madoff scandal may also lead to additional redemption requests.

The losses suffered by dealers and banks mean that their balance sheet constraints will continue to stymie the Federal Reserve's efforts to supply liquidity to prospective borrowers. As shown in exhibit 8, recent TAF auctions have been undersubscribed, and as shown in exhibit 9, the amount of dollar liquidity supplied via our swap lines has stabilized even though term LIBOR remains elevated well above the minimum bid rate that we charge on those auctions and the fact that swaps are open-ended in size. The problem is no longer one of supplying sufficient liquidity to the banks and dealers. The problem is getting these intermediaries to pass the liquidity onward to their clients.

Balance sheet constraints reveal themselves in many guises. Although LIBOR-OIS spreads have narrowed somewhat, they remain very elevated relative to historical levels (exhibits 10 and 11); jumbo mortgage rate spreads remain wide relative to conforming mortgage rates (exhibit 12); and cash instruments that take balance sheet room trade at significantly higher spreads than the corresponding derivatives that don't. Exhibit 13 illustrates the spread between high-yield cash bonds and the corresponding CDX high-yield derivatives index. This widening in that basis is one reason that some banks have taken large losses in the fourth quarter. Evidence that balance sheet constraints are impeding the availability and cost of credit continues to proliferate. This is obviously important because, if credit is not available on reasonable terms, this is likely to exacerbate the downward pressure on the economy.

A darker economic outlook, in turn, threatens to lead to more losses and balance sheet pressures, reinforcing the downward dynamic.

In terms of credit availability, the commercial mortgage area appears to be particularly vulnerable. According to industry sources, about \$400 billion of mortgage debt—most put on five to seven years ago—needs to be refinanced when it comes due in 2009. In recent years, commercial banks and the CMBS market provided the major source of funds for the commercial mortgage market. The owners of this commercial real estate are worried that, without new Federal Reserve and Treasury initiatives, funding will not be available to refinance this mortgage debt in 2009 on virtually any terms. Investment-grade and high-yield corporate debt will also have to be refinanced. Exhibit 14 illustrates that more than \$600 billion of term investment-grade corporate debt will need to be refinanced in 2009. So far, this market still looks open for business, but it may become less so if the macroeconomic environment continues to deteriorate.

Enough gloomy news. In the credit markets, are there any areas that have shown improvement? The answer, of course, is “yes.” In those areas in which the federal government, including the Federal Reserve, has applied the most force, the situation has generally stabilized or improved. Let me briefly give a few examples. First, the FDIC funding guarantee, the Citigroup intervention, and the \$250 billion of TARP money allocated for bank capital seem to have stabilized the banking sector. As shown in exhibits 15 and 16, CDS spreads have been pretty stable recently despite the deterioration in the macroeconomic outlook. Second, the commercial paper funding facility (CPFF) has led to significant improvement in the commercial paper market. As shown in exhibit 17, the yields on highly rated commercial paper have declined. As this has occurred, the CPFF has become less attractive, and the number of issuers and the amount of commercial paper purchased each day by the CPFF have moderated sharply (exhibit 18). Just as important, after an initial surge in which the CPFF represented virtually all of the long-dated maturity issuance, the CPFF share of long-dated issuance has fallen significantly (exhibit 19). So far, the CPFF has worked pretty much as designed. Third, our announcement and purchases of agency debt have brought in agency debt spreads relative to Treasuries. For example, in the five-year sector, debt spreads for Fannie Mae and Freddie Mac have narrowed more than 50 basis points since the last FOMC meeting. Fourth, our announcement that the Federal Reserve would purchase up to \$500 billion in GSE mortgage-backed securities has caused the spread between conforming mortgages and Treasuries to narrow sharply. Coupled with the fall in Treasury yields—encouraged somewhat by the Chairman’s suggestion in a speech that the Federal Reserve might buy long-dated Treasuries for the SOMA—this has caused conforming mortgage rates to drop sharply (exhibits 20, 21, and 22). As a result, mortgage refinancing activity has climbed sharply. Exhibit 23 illustrates the spike upward in the Mortgage Bankers Association mortgage applications to refinance index that has occurred in the past two weeks.

Exhibits 24 and 25 contrast the performance in markets with federal government intervention to those markets without. Spreads have generally narrowed where there has been intervention and widened elsewhere. The contrast in the behavior of spreads suggests that one might wish to expand our existing facilities further. The TALF is an obvious potential candidate given that it could conceivably be extended in multiple dimensions—including the scope of asset classes, vintage, and credit quality. In my opinion, the liquidity facilities should be viewed as part of our suite of monetary policy tools. The impulse of monetary policy to the real economy depends not just on the level of the federal funds rate but, more important, also on the impact on financial conditions. In normal times, movements in the federal funds rate result in moves in financial conditions in the same direction. Markets do the work, and financial conditions ease as the federal funds rate is cut. But in extraordinary times such as the present, in which banks and dealers are unwilling to on-lend liquidity because of balance sheet constraints, federal funds rate reductions alone may be ineffective in easing financial conditions. In such an environment, special liquidity facilities that bypass the banks and dealers may prove necessary to ease financial conditions. However, expansion of our liquidity tools does blow up our balance sheet. Exhibit 26 shows the growth of the balance sheet and the changes in its composition over time. Since late September, the balance sheet has grown sharply mainly because of the expansion of our foreign-exchange swap program (shown in light blue), the CPFF (shown in brown), and the TAF program (shown in purple). As shown in exhibit 27, which is a snapshot of our balance sheet late last week, this has caused excess reserves to rise sharply. The growth in excess reserves has been exacerbated by the rolling off of the Treasury SFP (supplementary finance program) bills. We peaked at about \$500 billion earlier, and now we have \$364 billion of SFP bills on our balance sheet. The Treasury was unwilling to continue this program at its earlier level because of worries about reaching the debt limit ceiling in the first quarter and because they would have had to notify the Congress 60 days before that.

Turning now to the Desk's efforts to implement monetary policy and the FOMC's directive, the effective federal funds rate has continued to trade soft relative to the target rate (exhibit 28). The interest rate paid on excess reserves (IOER rate) has not been a perfect substitute for the Treasury SFP program. Because the IOER rate for the two-week reserve maintenance period is set at the lowest level that occurred anytime during that period, the sharp drop last Thursday evident in the exhibit occurred because banks anticipate a substantial cut in the federal funds rate target and the IOER rate at this FOMC meeting. The drop in the effective rate has occurred even though we have increased the rate paid on excess reserves to equal the federal funds rate target. Although some of this softness in the effective rate relative to the target reflects the sales of federal funds by GSEs that are not eligible to be paid interest on excess reserves, this is by no means the whole story. The unwillingness of major banks to bid more aggressively for these funds is an important factor. This unwillingness to fully arbitrage the gap between the IOER rate and the effective federal funds rate is another consequence of the lack of balance sheet capacity in the banking sector. Although we are exploring ways to remove most of the GSE effect from the picture, even if we were to be successful in doing this, we expect that the

balance sheet constraints would still be powerful enough to cause the effective federal funds rate to trade soft relative to the target. Also, if the GSE federal funds volumes were removed, it is not clear what the effective target would represent because trading volumes could then turn out to be very, very low.

The drop in the effective federal funds rate has been accompanied by a corresponding drop in other short-term interest rates. In particular, general collateral repo rates have collapsed almost all the way to zero (exhibit 29). This is likely to lead to a rise in Treasury fails because, when general collateral repo rates are very low, the cost of shorting Treasury securities becomes negligible. As fails climb, in turn, this erodes market function in the Treasury market and reduces the usefulness of the Treasury market as a hedging vehicle for other fixed-income assets. The effect of fails on Treasury market function can be seen in exhibit 30, which shows how errors in our Treasury yield curve model have increased as short-term interest rates have fallen close to zero.

In terms of monetary policy expectations, the federal funds rate futures curves (exhibit 31) and the Eurodollar futures curves (exhibit 32) continue to shift lower. However, with the effective federal funds rate persistently trading below the target rate, it is unclear how much of this shift represents a change in expectations about what the Committee will do with respect to the target. The primary dealer credit survey sheds considerably more light here. As shown in exhibits 33 and 34, rate expectations have shifted lower since the last FOMC meeting. All 16 respondents to our most recent survey expect the FOMC to reduce the target, with most (13 out of 16) calling for a 50 basis point reduction in the target rate. No dealer expects a 25 basis point cut at this meeting. Two are at a 75 basis point cut, and one anticipates a 100 basis point reduction in the target rate. A slim majority—9 out of 16—expect a 50 basis point target to be the trough for the target rate. Most expect that the FOMC will not cut the target at future meetings, and no rate hikes are expected by anyone until the second half of 2009 at the earliest. Comparing exhibits 33 and 34, the most recent survey shows considerably less dispersion in the four-quarters-ahead federal funds rate forecasts.

Finally, for completeness, I include our standard chart on inflation expectations as measured by the Board's and Barclays' measures of the five-year, five-year-forward breakeven inflation rate (exhibit 35). I don't think these breakeven rates provide much information right now because the TIPS market has been heavily influenced by the sharp fall in CPI inflation that will accrue to TIPS over the next few months and by the growing illiquidity of TIPS versus nominal Treasuries. Interestingly, the most recent primary dealer survey shows no change in five-year, five-year-forward expectations for CPI inflation, with the average of the group remaining at 2.4 percent. There is, however, somewhat greater dispersion on both sides indicating uncertainty about how successful the Federal Reserve will be in keeping core PCE inflation in the "comfort zone" of 1½ to 2 percent on a longer-term basis (exhibit 36).

There were no foreign operations during this period. I request a vote as always to ratify the operations conducted by the System Open Market Account since the October FOMC meeting. Of course, I am very happy to take questions.

CHAIRMAN BERNANKE. Thank you. There was a sharp decline in the spike in the fails recently?

MR. DUDLEY. Yes. There are two potential explanations, and it's really hard to sort out what's driving it. One is just that trading volumes have come down, and as trading volumes have come down, fails have come down. So that's part of it. It's just tied to trading volume. The second explanation is that the Treasury Market Practices Group published a best practices report basically arguing that a penalty rate should be put on fails, and it is going to design a road map to show how that might be implemented in practice. It may be that, given that publication, people who before might have been more cavalier about shorting Treasury securities at very low interest rates are now somewhat less inclined to do so just because of the moral suasion of that report that it is not a good thing to do. So it is some combination of those two, I think.

CHAIRMAN BERNANKE. Thank you. Questions for Bill? President Hoenig.

MR. HOENIG. Bill, in your discussion on exhibit 13 and around the idea that a number of resets are coming for mortgages—the earlier seven-year ARMs and so forth—and as you also look forward to where mortgage rates are, why are you anticipating trouble with the ability to refinance, given the outlook for mortgages rates?

MR. DUDLEY. I think you have to distinguish between conforming mortgage markets and everything else. The conforming mortgage market is doing fine. Some spreads are a little wider than they have been historically, but our actions seem to have been pretty successful in bringing those spreads in a bit. So the conforming mortgage market rate is fine. The problem is in

commercial-mortgage-backed securities and nonconforming mortgages. The appetite to provide financing there is very, very much impaired, especially in the commercial mortgage market.

MR. HOENIG. Right. Okay. That clarifies. Thank you.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. Bill, has the FDIC's temporary liquidity guarantee program interfered with or added to the confusion in the purchase and sales of fed funds, or has our excluding sales under one month changed the picture?

MR. DUDLEY. I don't think it has created much confusion. The biggest confusion is who is guaranteed and who is not and which instruments are guaranteed and which instruments are not. I think people will have trouble sorting that out. Most of the issuance has been long term—three years. People say, "Well, if I'm paying 75 basis points, let me get the most value for that." So there hasn't really been much channel conflict with the very short end, and I think that the fact that one month and in is not covered also has reduced that potential channel conflict.

MR. FISHER. Is that pretty well understood in the marketplace?

MR. DUDLEY. I think so.

MR. FISHER. Then speaking of guarantees, I have just one more question, if I may, Mr. Chairman. In chart 14, are these net of credits that might have some kind of government guarantee?

MR. DUDLEY. This is total. In fact, when you look at the issuance of investment-grade corporate debt recently, there's quite a bit of it, but most of it is the guaranteed stuff.

MR. FISHER. Yes.

MR. DUDLEY. So excluding the guaranteed stuff, the issuance volumes do not look as robust as the aggregate number suggests because so much of that is the guaranteed stuff.

MR. FISHER. So for 2009?

MR. DUDLEY. I don't have the number off the top of my head.

MR. FISHER. It's not this total?

MR. DUDLEY. No.

MR. FISHER. Thank you.

CHAIRMAN BERNANKE. Any other questions? President Bullard.

MR. BULLARD. At the beginning of your comments, you said that you expected further big mark-to-market losses. Do you mean over and above what markets anticipate now?

MR. DUDLEY. No. I mean that in the fourth quarter they will reflect the decline that occurred from August 30 to November 30 for the investment banks. September 30 to December 30 just hasn't been yet recorded on their balance sheet. They haven't announced it yet.

MR. BULLARD. You cited that Goldman number of \$2 billion, but that's been widely reported.

MR. DUDLEY. That has been widely reported. Morgan Stanley is also going to report this week, and it is highly likely they will have similar losses.

MR. BULLARD. Then I just want to understand—on exhibit 2 you said something about a fully discounted default rate last seen in the Great Depression. What did you mean by that?

MR. DUDLEY. Well, if you basically take that 21 percent and compare it with the default rates in the Great Depression and write down some numbers for recoveries, if you had a default rate equal to the Great Depression default rate and you had a 20 percent recovery, you'd actually do pretty well owning high-yield debt at these levels right now. So the level of yields fully discounts horrific default rates.

CHAIRMAN BERNANKE. In fairness, these are junk bonds. These are low-rated companies.

MR. DUDLEY. Well, yes. It is possible that we could have default rates greater than those of the Great Depression. I'm just saying that these levels discount that kind of outcome. Obviously, the high-yield debt market today is different from general default rates. Yeah, I think that's a fair point.

MR. BULLARD. Do we know? Was there something like a junk market in the Great Depression that we can compare this with?

MR. DUDLEY. Well, there were certain leveraged utility companies that you could argue were pretty junky.

MR. FISHER. Corporate grade became junk in the Great Depression.

CHAIRMAN BERNANKE. Michael Milken hadn't been born yet. [Laughter] President Lacker.

MR. LACKER. That's a calculation that embeds risk neutrality into the extrapolation?

MR. DUDLEY. Well, you could solve for the risk premium that was left over, and we did a back-of-the-envelope calculation in New York on that. It was an excess return of about 600 basis points.

MR. LACKER. Doesn't that depend on the assumption about the correlation between—

MR. DUDLEY. Look. This is back of the envelope. Obviously, you'd have to dig down pretty deeply to try to separate what's the default rate and what's the risk premium. But the point here is that the market is discounting very adverse outcomes.

MR. BULLARD. I just want to follow up on that. Would you say that that represents a tremendous amount of pessimism out there, or are you saying that you think we're going to get default rates like the Great Depression?

MR. DUDLEY. No, I think it's some combination. I don't think you can really separate how much of it is default rate versus how much of it is risk premium. The point is that there's probably a considerable amount of both. Clearly the risk premiums are high because we see risk premiums on safe assets being very, very high. The classic example is the student loan, which is 97 percent guaranteed by the federal government, trading at LIBOR plus 350 or LIBOR plus 400. That's probably a pretty good measure of risk premium—that's your underlying risk premium on all assets, maybe a few hundred basis points.

CHAIRMAN BERNANKE. President Lacker has a two-hander.

MR. LACKER. First, about the risk premium, it's either a lot of pessimism or a lot of correlation between defaults and bad states of the world and essentially low growth. The second thing, I took a look at the student-loan-asset-backed securities that you talked about—FFELP. I think you have a chart here. It turns out that the trusts are guaranteed a rate of return equal to the commercial paper rate, and any excess over that they have to return to the Department of Education. They get a payment if the return is below that. Your coupon is 200 points above LIBOR, and LIBOR is trading a bit above commercial paper rates, right? So there's a negative spread built into the trust documents. They're paying 300 basis points more than they're earning on the trust. So a little extra premium seems pretty reasonable. Is my understanding of that security correct, Bill?

MR. DUDLEY. I think what you're describing is the perspective from the issuer of the obligation. The issuer of the obligation has a problem because on one side they get commercial paper and on the other side they get LIBOR, and so they have a mismatch. They have essentially a basis risk. But about where securities are trading in the market or what end-investors can invest in the securities—I think you're referring more to the issuers of the securities, and the chart I showed is what investors in the AAA tranches get. So I think it's a slightly different thing.

MR. LACKER. Well, wouldn't investors want to discount or take into account the fact that the trust, which is their only source of payment, is earning about 300 basis points less than the coupon? Wouldn't that show up in a higher premium on what the investor is willing to pay?

MR. DUDLEY. I don't see it that way.

MR. WILCOX. President Lacker, it's a complicated security, but it's wrapped by a guarantee that ultimately the Department of Education will make good on to the tune of 97 cents on the dollar. There's one little detail that is causing another piece of friction in the market, and that is that, if the servicer doesn't perform on the loan, then the Department of Education has the right to not make good on the guarantee. But other than that, it's about 97 percent guaranteed.

MR. DUDLEY. We think they're pretty safe—not perfectly safe, but pretty safe.

MR. LACKER. Okay.

MR. WILCOX. Apparently the ability of the Department of Education not to make good on the guarantee is very rarely exercised.

MR. LACKER. But the Department of Education doesn't guarantee LIBOR plus a 200 basis point coupon. It guarantees the commercial paper rate.

MR. WILCOX. I believe Bill's point is that it guarantees a return to the investor.

MR. LACKER. That still doesn't seem that irrationally priced. Thank you.

CHAIRMAN BERNANKE. Okay. Other questions for Bill? If not, we need a motion to ratify domestic open market operations.

MR. KOHN. I so move.

CHAIRMAN BERNANKE. Any objections? All right. Thank you. Let's turn now to Brian, and we'll have a staff presentation on the zero lower bound. I'm being reminded that this is a

joint Board–FOMC meeting. I’m reconvening a Board meeting that began this morning. Thank you.

MR. MADIGAN. Thank you, Mr. Chairman. As the Committee requested at your last meeting, the staff has provided background for your discussion today of issues related to the zero lower bound on nominal interest rates. Ten days ago, we sent you 21 notes covering lessons from the U.S. and Japanese experiences in disinflationary or deflationary environments; the possible costs to financial markets and institutions of very low interest rates; the potential benefits of further rate reductions; and the advantages and disadvantages of nonstandard approaches to providing macroeconomic stimulus that could be employed when the federal funds rate cannot be reduced further. Numerous staff members contributed to these notes—too many to recognize individually right now. But I would nevertheless like to thank them collectively for their intensive efforts on this project when many were already quite busy with other important assignments. Steve Meyer will now summarize the key conclusions from the staff work, and then I will review the suggested questions for discussion that we sent to you last week. Steve.

MR. MEYER. Thank you, Brian. By way of background, the Greenbook and many private forecasters project a sizable drop in real GDP from mid-2008 to mid-2009, followed by sluggish growth into 2010, even with short-term interest rates barely above zero and with substantial fiscal stimulus. The Board staff and the median forecaster in the December Blue Chip survey predict that unemployment will peak around 8.25 percent in 2010. The Greenbook forecast shows core PCE inflation dropping below 1 percent in 2010; many private forecasters envision similar disinflation. Moreover, responses to a special question in the latest Blue Chip survey indicate that private forecasters see a sizable risk of deflation, and stochastic simulations of FRB/US that take the Greenbook forecast as the baseline suggest a roughly 1-in-4 chance that the core PCE price index will decline over one or more of the next five years. In short, forecasts generally suggest that additional stimulus would be desirable.

With the target federal funds rate at 1 percent and the effective rate significantly lower, the Committee has little scope for using conventional monetary policy to stimulate the economy. As a practical matter, the System’s large liquidity-providing operations and the Treasury’s decision to scale back the supplementary financing program make it likely that the effective federal funds rate will remain quite low into the new year. Even so, the Committee could choose to apply some additional stimulus by reducing its target federal funds rate and pushing the effective funds rate closer to zero.

The research literature strongly suggests that a central bank should quickly cut its target rate to zero when it faces a substantial probability that conventional monetary policy will, in a few quarters, be constrained by the zero lower bound on nominal interest rates. But as discussed in several of the notes you received on December 5,

driving short-term interest rates to zero would have costs as well as benefits. Zero or near-zero rates cause a high volume of fails in the Treasury securities market, leading to decreased liquidity in that market and potentially in other fixed-income markets. And if short-term rates remain very close to zero, some money market funds probably will close. Such costs may argue against cutting the target funds rate to zero and driving the effective rate closer to zero.

Whether or not the Committee chooses to cut its target rate to zero, policymakers may find it helpful to expand the use of nonstandard monetary tools. In the current environment, using such tools has two potential benefits. First, they may help the Federal Reserve achieve better expected outcomes on both parts of the dual mandate. Second, nonstandard tools could help mitigate the risk of an even more negative outcome. It may prove useful to group nonstandard tools into four broad categories and treat each category in turn.

The first category is simple quantitative easing. This approach uses conventional open market operations such as buying short-term government debt and conducting repurchase agreements to raise excess reserves in the banking system to a level well beyond that required to drive short-term interbank rates to zero. The objective is to spur bank lending by ensuring that banks have ample funding at very low cost. The Japanese experience suggests that greatly expanding excess reserves, per se, has limited success in spurring bank lending, and thus has modest macroeconomic effects, when banks and borrowers have weak balance sheets.

The second category of nonstandard policy tools is targeted open-market purchases of longer-term securities. The objective here would be to reduce term spreads or credit spreads and thus reduce the longer-term interest rates that are relevant for many investment decisions. The Committee could, for example, direct the Desk to buy a large amount of longer-term Treasuries. The Bank of Japan bought sizable quantities of Japanese government bonds; its purchases are thought to have lowered yields. The available evidence for the United States suggests that adding \$50 billion of longer-term Treasury securities to the SOMA portfolio (a bit less than 1 percent of publicly held Treasury debt) probably would lower yields on such securities somewhere between 2 and 10 basis points; a substantially bigger purchase could have a disproportionately larger effect as longer-term Treasuries became scarce. Of course, what matters for the macroeconomy is the effect on private agents' borrowing costs and wealth. Those effects are difficult to predict. Corporate bond yields should decline with Treasury bond yields, though perhaps less if supply effects are the main reason Treasury yields fall. But corporate bond yields could decline more than yields on Treasuries if the Committee's action reduces investors' concerns about downside risks and thus reduces credit risk premiums. Such a boost to confidence could also lift stock prices and household wealth. Another possibility is to instruct the Desk to buy a large quantity of GSE debt and mortgage-backed securities to reduce their yields and thus drive down mortgage rates. As Bill noted, markets reacted positively to the November 25 announcement that the Federal Reserve will buy \$100 billion of GSE debt and up to \$500 billion of agency-backed MBS; yields

on 10-year GSE debt and option-adjusted MBS yields fell about 60 basis points that day, and the spread over 10-year Treasury yields narrowed about 40 basis points. Quoted rates on conventional conforming mortgages declined a similar amount in subsequent days. The magnitude of the announcement effect, which is consistent with estimates from the research literature, suggests that additional targeted purchases of agency debt and MBS could provide further macroeconomic stimulus.

The third major category of nonstandard tools encompasses special liquidity and lending facilities. The Board could choose to expand current facilities or create new ones. Special liquidity facilities for banks and other financial firms are intended to help them meet their customers' needs for credit by providing a reliable source of funding even if the markets in which those lenders usually raise funds are disrupted or if their depositors withdraw funds. Indeed, these facilities seem to be meeting these needs effectively. The Term Auction Facility, or TAF, is one example; the Asset-Backed Commercial Paper Money Market Mutual Fund Lending Facility, or AMLF, is another. Liquidity facilities may also support specific funding markets. The idea is that such markets are more likely to function if borrowers are confident that they will be able to issue and roll over debt and if lenders are assured that they will be able to fund purchases of debt instruments or reduce their holdings of such instruments when necessary. The Commercial Paper Funding Facility, or CPFF, is an example of this sort of program. Although the commercial paper market has not returned to normal, the CPFF has been helpful in supporting overall credit flows and reducing some credit spreads. Direct discount window lending to creditworthy nonfinancial firms is another potential tool for supporting economic activity. The Federal Reserve Act allows such lending, on a secured basis, if the borrower is unable to obtain adequate credit from banking institutions during unusual and exigent circumstances.

Significant further expansion of the System's lending programs would raise a host of issues. New facilities that lend directly to individuals, partnerships, or corporations would have to meet the requirements in section 13(3) of the Federal Reserve Act. The Reserve Banks would take on more credit risk unless the Treasury or other parties took substantial first-loss positions. Moral hazard would become a larger issue. The resulting increase in reserve balances would further complicate the implementation of monetary policy unless the FOMC were willing to accept a federal funds rate of essentially zero. Developing satisfactory exit strategies would be challenging. And the practical burdens of designing and operating a sizable number of new liquidity facilities would be substantial. Even so, some expansion might prove useful if credit conditions do not improve.

Communication and commitment strategies are the fourth and final category of nonstandard policy tools. In current circumstances, the Committee might use such strategies in an effort to lower market expectations of future short-term interest rates and thus reduce long-term rates, or it might wish to prevent expectations of deflation from taking hold. I will mention three strategies that the Committee might pursue.

First, research suggests that it would be helpful for the Committee to be explicit about its longer-term goals, particularly about its goal for inflation. Foreign experience supports the theoretical prediction that an explicit and credible inflation objective helps anchor longer-run inflation expectations and thus can help prevent a downward drift in expected inflation and an upward drift in real interest rates during a protracted period of high unemployment and slowing inflation. That is, an explicit longer-run inflation target can prevent the public from thinking that the Federal Reserve will allow inflation to remain persistently below rates that the Committee has previously said are desirable. The Committee has discussed the pros and cons of a numerical objective for inflation several times. You may wish to consider whether the significant risk of deflation and the near certainty that the zero lower bound will constrain conventional monetary policy have changed the cost–benefit calculus.

Second, the Committee could announce that it will seek to run a somewhat higher rate of inflation for a number of years than it will seek in the long run. Such a promise, if deemed credible, would stimulate real activity by raising inflation expectations and reducing medium- and long-term real interest rates. Researchers have proposed several approaches for dealing with the zero lower bound that would operate in this fashion, including targeting a slowly rising price level. These approaches would be a significant departure from historical practice, and so their pros and cons would need to be evaluated carefully.

Third, research suggests that it would be helpful for the Committee to provide more-explicit information about its views on the likely future path of the federal funds rate. Suppose, for example, that the Committee concludes that it most likely will need to keep the federal funds rate close to zero for some time to spur an economic recovery and to prevent a persistent decline in inflation. In the current environment, an announcement to that effect might lead market participants to expect the funds rate to remain near zero for a longer time than they now think likely; the announcement might also lead to an increase in expected inflation. Those changes in expectations would lower nominal and real bond yields, providing some stimulus to economic activity. Theory suggests that it would be important to make clear that the Committee's current view about the likely future path of policy is conditional on current information and the current outlook and to spell out how the actual policy path would depend on a range of possible future outcomes. Communicating this conditionality could be difficult.

The bottom line from the staff's analysis is that unconventional monetary policy tools can be useful complements to well-designed fiscal stimulus and to steps to recapitalize and strengthen the financial system. Additional purchases of longer-term securities, expansion of targeted lending facilities, and explicit statements of policymakers' goals and intentions all seem likely to be useful when conventional monetary policy is constrained by the zero lower bound on nominal interest rates. Our limited experience with these tools makes it difficult to estimate the amount of macroeconomic stimulus that would be generated by each and thus makes it difficult to calibrate their application. If the Committee and the Board choose to make greater

use of nonstandard tools now or in the near future, it may be appropriate to deal with the uncertainty by using the tools in combination. Finally, the Bank of Japan's experience suggests that nonstandard tools are more likely to be effective if they are used aggressively. I'll now turn back to Brian.

MR. MADIGAN.² The staff provided eight questions to help frame your discussion, and those questions are included in the package we have placed before you—a single page with a blue cover sheet. I would like to comment briefly on each of them.

The first question deals with the issue of whether policy adjustments should be accelerated when the zero bound looms, as the research literature indicates, or whether the Committee should “keep its powder dry”—for example, if it believes that the announcements of rate cuts have some special ability to buoy confidence. In present circumstances, a key practical consideration is that the System's liquidity programs have already resulted in a very low effective federal funds rate. Absent a very substantial unwinding of those facilities, the effective funds rate will remain close to zero for the foreseeable future even if the Committee adopts a significantly positive target for the federal funds rate. Still, the announcement of cuts in the target rate probably would trigger further reductions in the prime rate and thus in rates paid by a sizable fraction of debtors. Alternatively, the Committee might set a target rate significantly above zero to convey its intentions for the stance of monetary policy over a period longer than the intermeeting period.

The second question concerns your views of the costs of very low interest rates. In the financial markets, very low short-term rates are likely to erode liquidity; fails will increase, and the returns available on some short-term investments simply will not overcome the transaction costs. The staff research concluded that certain financial intermediaries, such as Treasury-only money market funds, will clearly be adversely affected by very low interest rates, and those adverse effects could have spillover effects into other markets, such as the repo market. But not all financial institutions will be hurt by low rates; there will be winners and losers, depending partly on their asset–liability mix. Moreover, our work suggested that financial institutions in the aggregate tend to benefit from the macroeconomic stimulus of monetary policy easing. Overall, judging the point at which the marginal costs of rate reductions exceed the marginal benefits is quite difficult.

The third question asks whether you see a net benefit from communicating your intentions for inflation beyond the next few years or your views about the likely stance of monetary policy over some period longer than the intermeeting period. Specifically, we suggested that you comment on the desirability of stating (1) that you intend to hold the funds rate at very low levels until specified conditions prevail, (2) that the Committee is concerned about the risks of excessive disinflation and will act to mitigate that risk, or (3) that the Committee will be willing to temporarily accept higher rates of inflation in the next few years in order to limit the economic downturn

² The materials used by Mr. Madigan are attached to this transcript (appendix 2).

and encourage recovery. The draft statements presented in the “Policy Alternatives” section of the Bluebook include language that you might consider if you decide to pursue one or more of these possibilities.

Questions 4 through 8 cover nonstandard policy tools. Question 4 asks your views about the benefits of large open market operations in agency debt, agency MBS, and Treasury securities. Such purchases are clearly within the authority of the FOMC, and the staff research suggests that they have definite potential to stimulate economic activity by lowering longer-term interest rates, although calibrating those effects is difficult. However, members could be troubled by the fact that purchases of agency debt and MBS could be regarded as steering funds to the GSEs and to particular economic sectors. In your responses to this question, you may want to comment on whether you are concerned by the credit-allocation aspects of such purchases. You may also want to provide your views on the channels through which purchases of Treasuries or agency securities would have a beneficial effect. In particular, do you see the power of such tools as arising from their effects in reducing long-term yields and spreads and supporting aggregate demand through those channels? Or would you emphasize the increase in excess reserves and the monetary base that would accompany such purchases and the possible effects on bank lending?

Question 5 relates to liquidity facilities. As Steve noted, the creation of additional lending facilities is another potentially powerful policy tool for the Federal Reserve—particularly in current circumstances, in which credit flows in some markets are severely disrupted. Some of those facilities appear to have been successful in supporting credit flows and thus economic activity. But even though further additions or expansions could be helpful to credit intermediation, taking these steps would involve a number of substantive issues. Also, the design, implementation, and ongoing operation of such facilities pose real resource challenges to the System. Moreover, these programs raise governance issues. Because such programs generally rely on the section 13(3) lending authority, authorization of these programs is the responsibility of the Board, and the decision to lend is made by the Reserve Bank. At the same time, these programs create reserves and thus potentially affect the FOMC’s ability to influence the funds rate.

Question 6 is open-ended: Do you see other nonstandard policy tools besides open market purchases and liquidity facilities as likely to be particularly helpful in current circumstances? If so, what are those tools?

Question 7 returns to governance issues: Given that the Desk has begun to purchase agency debt and MBS, how should the FOMC specify its directive to the Desk? If the Committee instructed the Desk to undertake purchases in order to attain specific objectives for interest rate levels or rate spreads, serious practical issues could arise. Longer-term yields are heavily affected by expectations of future policy rates, which are in turn importantly driven by incoming economic news as well as by various risk premiums. Experience indicates that our operations have an effect on longer-term yields, but to have an effect that is economically significant, the

operations may need to be very large. Even then, given the substantial effects of the other factors that affect yields, it might be very difficult or impossible to achieve specified rate levels or spreads. As an alternative, the Committee could instruct the Desk to purchase specific quantities of particular types of obligations. Such an approach is clearly feasible, but its potential benefits may be harder to communicate to the public except in qualitative terms. Another issue is whether the directive should be conditional on market developments. The Bluebook provided drafts of directives in which the basic approach is to specify quantities of purchases over specified periods of time but with some allowance for qualitative judgments about market conditions.

Question 8 comes back to communication issues. If the Committee embarks on the use of unconventional policy tools, clearly communicating the nature of the policy and the intended objectives will be challenging. For example, once the Committee has formally brought its target for the federal funds rate to around zero or otherwise has signaled that further rate reductions will not be forthcoming, there will surely be press stories asserting that the Committee has “run out of ammunition,” potentially undermining the Committee’s message that monetary policy still can provide considerable stimulus. Overcoming these communication challenges will be somewhat easier if the Committee is able to agree on the substance of what it is trying to accomplish and a broad approach to explaining it to the public. But achieving such agreement is complicated by significant remaining uncertainties about the effectiveness of the various unconventional policy tools, a very uncertain economic outlook, and other factors. In your remarks, you may wish to provide your views of the best practical means for the Committee to address these communication challenges. Thank you. We would be happy to respond to your questions.

CHAIRMAN BERNANKE. Thank you very much. I would like to give special thanks to the staff, some of whom are here and some of whom are not, for an extraordinary amount of work on these difficult topics over a short period of time. We very much appreciate those efforts.

Are there questions for Brian or Steve or anyone else? If there are no questions, we’re ready for the go-round on this topic. I’d like to ask your indulgence. There’s an awful lot here, and I’d like to go first this time and try to clear out some underbrush and to lay down some issues in the hope that it will perhaps focus our discussion a bit more.

As you know, we are at a historic juncture—both for the U.S. economy and for the Federal Reserve. The financial and economic crisis is severe despite extraordinary efforts not only by the Federal Reserve but also by other policymakers here and around the world. With respect to

monetary policy, we are at this point moving away from the standard interest rate targeting approach and, of necessity, moving toward new approaches. Obviously, these are very deep and difficult issues that we are going to have to address collectively today and tomorrow. I want to say that, although we are certainly moving in a new direction and the outlines of that new direction are not yet clear, this is a work in progress. The discussion we're having today is a beginning. It's not a conclusion. Everyone can rest assured that this conversation is going to continue for additional meetings, and today we're not going to be setting in stone an approach that will be used indefinitely. In fact, it would be hubristic to do so, given all the uncertainties and changes that we face. I'm not going to try to address all of these questions, but I thought it would be useful for me to talk a bit, first, about nontraditional policies and then, second, about the important issue of governance, which I know a lot of people are concerned about.

So let me start, first, with nontraditional policies. I want to note that we are working and we should continue to work to improve our control of the effective funds rate. The interest rate paid on reserves is not currently sufficient to keep the rate at the target. That's for a lot of reasons with which you are all familiar. I would just note that the staff is still working. We should not give up on that. The interest rate on reserves may be more effective as people get used to it, as balance sheet constraints ease, and as the rate gets higher if we decide to raise rates. So I think that is still a tool that we should keep and be aware of. There are other strategies—opening term accounts of various kinds, taking steps to encourage arbitrage, using Treasury bills, or perhaps issuing our own bills. In fact, we have had a lengthy discussion in this Committee of alternative structures for implementing monetary policy that involve different ways of setting up reserve requirements.

So first of all, let's just acknowledge that, although we are not keeping the effective funds rate at the target currently, we should not assume that that's always going to be the case. We do

have some optionality in that direction. That being said, it's obvious that the effective funds rate now is quite low, and given the amount of excess reserves in the system, we're going to have to find other ways at least in the near term to address the economic crisis. One approach, as was discussed by Steve and others, is communications. Here, in particular, I think, we are at early stages. I don't think we're going to come to any conclusions today. There is a lot of interest in terms of possibilities. The one thing I would say is that, if we do use communications as a way of providing information about future policy moves, we should be very careful to make those interest rate forecasts, if you will, conditional on the state of the economy. It should be very clear, if we give forward guidance of some kind, that the evolution of the policy rate will depend on how the economy evolves. The more clarity we can provide in that direction, the more effective our policy will be and the less problem we will have exiting from that strategy in the future.

The statements that were circulated in the Bluebook gave two examples just for discussion, both of them in alternative A. In paragraph 2, there was some suggested language for using an inflation target as a way of managing expectations. Let me just read the sentence: "In support of its dual mandate, the Committee will seek to achieve a rate of inflation, as measured by the price index for personal consumption expenditures, of about 2 percent in the medium term." The idea there would be to try to stabilize inflation expectations, avert deflationary expectations, and keep real rates lower than they otherwise would be. The 2 percent in that statement is a placeholder. Obviously if we do this, we would have to talk more about what 2 percent means. Is it a permanent level? Is it a temporary number? But that is one strategy.

I would add that, of course, as we have discussed, adopting what might be a de facto inflation target is a pretty big deal, and if we decide to do that, I would like to have some opportunity to consult with the Congress appropriately. But if we decide to go in this direction, I do

think that this might be a good time because it is certainly not a negative as far as employment growth is concerned in this context, and so it might be easier to explain.

The other example of communication, also in alternative A, ties policy to economic forecasts. “The Committee anticipates that weak economic conditions are likely to warrant federal funds rates near zero for some time.” I note that this is a forecast of policy rather than a commitment to policy, but it does provide some information about the Committee’s expectations and should affect market rates. So, again, I think we’re at early stages of this particular approach, but it may be promising, and I hope today’s discussion will provide some insight.

The second general approach to conducting nontraditional monetary policy is by use of the balance sheet. We have already begun to do this to some extent, as you know. In some respects our policies are similar to the quantitative easing of the Japanese, but I would argue that, when you look at it more carefully, what we’re doing is fundamentally different from the Japanese approach. Let me talk about that a bit. The Japanese approach, the quantitative easing approach, was focused on the liability side of the balance sheet—specifically the quantity of bank reserves, the monetary base, or however you want to put it, in the system. The theory behind quantitative easing was that providing enormous amounts of very cheap liquidity to banks, as Steve discussed, would encourage them to lend and that lending, in turn, would increase the broader measures of the money supply, which in turn would raise prices and stimulate asset prices, and so on, and that would suffice to stimulate the economy. Again, the focus of the quantitative easing was on the liability side, and indeed, there were targets, as you know, for the amount of excess reserves or reserves in the system. I think that the verdict on quantitative easing is fairly negative. It didn’t seem to have a great deal of effect, mostly because banks would not lend out the reserves that they were holding. The one thing that it did seem to do was affect expectations of policy rates because everyone understood it would

take some time to unwind the quantitative easing. Therefore, that pushed out into the future the increase in the policy rate.

So I would argue that what we are doing is different from quantitative easing because, unlike the Japanese focus on the liability side of the balance sheet, we are focused on the asset side of the balance sheet. In particular, we have adopted a series of programs, all of which involve some type of lending or asset purchase, which has brought onto our balance sheet securities other than the typical Treasuries that we usually transact in. You are all aware of the lending facilities for banks and dealers, the swaps with foreign central banks, the promised purchases of MBS, the various credit facilities for which even I do not know all the acronyms anymore. [Laughter] In this case, rather than being a target of policy, the quantity of excess reserves in the system is a byproduct of the decisions to make these various types of credit available. I think that's a very different strategy, and Bill gave some evidence—we can debate it further—that these different policies have had some effects on the markets at which they're aimed.

Again, to distinguish between the balance-sheet, quantitative-easing, liability-side approach and the asset-side approach that we have been using, I do not think—and I feel this quite strongly—that it makes any sense for us to have or try to describe monetary policy with a single number, which is the size of the balance sheet or the size of our liabilities, as the Japanese did. There are a number of reasons for this, but the least important reason is probably just the fact that many of our programs don't have fixed sizes. They are open-ended—like the swap programs, for example. Also, many of the programs have different timing, different durations, maturities, beginning points, ending points, and the like, and so in that respect I think it would be difficult to put in a single number. More important, the programs on the asset side of our balance sheet serve different purposes and have different structures, and aggregating a dollar of MBS purchase, a dollar of

commercial paper purchase, and a dollar of swaps to make three dollars strikes me as being apples and oranges. I do not think that is the right way to think about it. Furthermore, and finally, these programs obviously have different operational costs and risks, different risks of losses, different maturities, and most important, they present different issues with respect to the exit strategy, which we will want to talk about. Rather than looking at this as a single number, as a measure of the liability side of the balance sheet, I think we ought to think about it as a portfolio of assets, a combination of things that we are doing on the asset side of our balance sheet, that have specific purposes and that may or may not be effective; but we can look at them individually.

Let me turn now quickly to the governance issues. Before getting into them, let me just say that, whatever difficulties we may have finding appropriate governance, it is certainly the case that the Federal Reserve Act did not exactly contemplate the situation in which we find ourselves today. I think we all agree that getting the right policies for the U.S. economy is the top priority and, whatever we do, we need to find a way to get the right policies in place. Frankly, I think the best way to achieve that—I am going to talk about some details—is through operating in good faith. If we work together and keep each other apprised of developments and our views, we will be able to make this work. If we take too narrow an approach, too legalistic an approach, I think it will be much more difficult.

So let me make a few comments. I think I can focus this best by simply answering the question: If the federal funds rate is at zero and the FOMC no longer sets the target, then what is the role of the FOMC in monetary policy? I have four answers to that question. The first is that the Federal Reserve's outlook is the FOMC's outlook. That is, the FOMC's views about the evolution of the economy, of prices, and of financial conditions will govern our policy decisions. In particular, it is the FOMC's outlook that appears in the minutes, it is the FOMC's outlook that

appears in the projections, and it is the FOMC's outlook that appears in our communications. Therefore, if your board members ask you with respect to monetary policy, "Well, what are we doing now?" the answer is, "Keep telling us what you are seeing in the economy and financial markets. We will transmit that to the full FOMC because the FOMC's outlook is the perspective that governs the policy actions that we take."

The second role of the FOMC, I believe, is in the communication policy, both in the narrow and in the large. In the narrow, if we decide to adopt a target, make a commitment about the length of time in which we hold rates low, or make any other kind of verbal promise in our statements or in other contexts, that is obviously the FOMC's prerogative, and I think we understand that that's how it would work.

The third area is the most difficult one, and that has to do with the balance sheet. The law provides a kind of odd co-dependence, if you will, between the Board and the FOMC with respect to the balance sheet. Both the Board and the FOMC are enjoined by the Federal Reserve Act to pursue the dual mandate, and both the Board and the FOMC have powers that affect the size and composition of the balance sheet. In particular, the FOMC has authority over Treasuries, agency purchases, and swaps, whereas the Board has, in particular, the 13(3) authority, which has been utilized a lot lately for credit programs. So we have dual authority, and we have dual or joint responsibility. I think the only way to deal with that essentially is through close consultation and collaboration. My commitment to you is that we will work together even more closely, even more collegially, going forward to make sure that everyone is on board and understands what we are doing with respect to our various programs on the asset side of our balance sheet and that each person on this Committee is well informed and is able to give views and input into the discussions that we have.

The legal authorities are what they are, but I do think that a collective and cooperative effort can help us solve this problem. In particular, I understand that the briefing sessions that I have provided have been useful. I am willing to commit to do those as frequently as necessary, and I am willing to make them into meetings if we need to have two-way discussions and input from the Committee with respect to policy actions. So it is a bit awkward, but I hope that cooperation will allow us to work together on the balance sheet.

Now, there is a special issue here, though, which is the unwind issue. One way in which the balance sheet affects the responsibilities of the FOMC is that, if the FOMC is going to be raising interest rates at some point in the future, clearly, it needs to have information and understanding about the constraints being placed on policy by the size and composition of the balance sheet. So I think that keeping the FOMC as a whole informed about the balance sheet, about the programs, about the constraints that may be placed on the unwind, and about alternative strategies for raising rates once the time comes, is incumbent upon me and the rest of the Board to do. As a down payment on that, I have asked Bill Dudley, if there is time tomorrow, to give you a bit of an update on the TALF, the asset-backed securities loan facility, and talk to you about some issues that it raises for the unwind and for future interest rate policies.

Fourth, and finally, with respect to the FOMC responsibilities, is communication to the public. The public doesn't make the distinction between the Board of Governors and the FOMC. The public understands the Federal Reserve. What we need to do is to come together and decide what policies we want to pursue and then collectively take responsibility for those policies and communicate them in a coherent and consistent way to the broad public. That is the responsibility of all of us, and I hope we can work together to provide everybody with the information that they need to do that effectively. In particular, I am going to say that, given the

state of confidence in the markets and in the economy, I hope whatever disagreements we may have that as much as possible we can keep them within these walls. With respect to the public, we need, as much as possible, to communicate a clear strategy going forward.

So those are just some thoughts on governance. I recognize the problems. I am eager to hear your views about how to do it better. I am also interested in knowing how you think these governance issues should translate into the statements and into the directives. I think we have thrown out some suggestions there. We are not in any way wedded to them. If other people have other ideas, we are very open to adopting those ideas. But at least I want to say that I am fully aware of these issues, and I think that however many structures we may impose, nothing is going to substitute for a good faith, collaborative effort in making this work. Let me stop there and begin the go-round with President Lacker.

MR. LACKER. Thank you, Mr. Chairman. Let me echo your comments about the staff's work. They have provided us with a very comprehensive compendium of research and experiences relevant to the policy problems that we are facing now. And they have presented it in a surprisingly digestible form, all things considered. [Laughter] This was no small feat, as you and Brian noted, given the other demands on the staff's time over the past few months.

Clearly, as you said, Mr. Chairman, this is a critical moment for the Fed and the economy. Whatever we do and say at this meeting is going to mark a discrete change in the way we have conducted policy and communicated about it to the public in recent years. Some of this change, as has been noted, is already under way. We exhausted our ability to sterilize the additional reserves created through credit expansion at about the same time we implemented interest on excess reserves. Beginning with this meeting, we have to articulate how we would

intend to conduct monetary policy and pursue the goals of our dual mandate with the funds rate at a very, very low level, perhaps zero, and perhaps for a very extended period of time.

Before addressing specifically the questions that Brian has laid out for us, I want to make clear what I think is one of the central issues at hand, and that is the Committee's control over the monetary base and its conduct of monetary policy. When we target the fed funds rate at any rate above zero, we instruct the Desk to manage reserves or, equivalently, the monetary base so as to keep the effective funds rate at our target. Monetary policy has always been about controlling the base, and this continues to be true at the zero lower bound on interest rates. In fact, the path of the monetary base is even more critical at the zero bound because that is how we prevent deflation. By managing the public's expectations about future base growth and future inflation, we manage current real rates and influence real activity. In essence, we prevent deflation by convincing the public that future base growth will be inconsistent with a falling price level.

Just as a thought experiment, imagine that we commit to keeping interest rates at the zero bound for an extremely long time period, say infinitely. If we do that—this is a clear result from the literature—it does not prevent a deflationary equilibrium. But if we can commit to keeping the monetary base at a finite level, not falling, then that does rule out a deflationary equilibrium. So it is key that expectations about the base, not just nominal interest rates, are vital for our ability to prevent a deflationary equilibrium.

I think that focusing on the monetary base is going to help communication, and the reason is that a lot of people out there might not understand the relationship between credit spreads and growth or inflation or various other things that we are doing. But in almost everyone's mind is the phrase "too much money chasing too few goods." It provides, for a lot of

people, an intuitive link between money and inflation, and I think we—for all the warts of our policy in the early 1980s under Chairman Volcker—exploited that well, to convey to the public that we were committed to bringing inflation down in a simple, intuitive way. I think that can help us now, analogously, in convincing the public that we are going to be able to prevent deflation because we control money.

The Committee's management of the base or bank reserves is distinct, in my view—as you noted, Mr. Chairman—from the initiatives that use our balance sheet to target specific financial market spreads. Credit market programs may have macroeconomic effects. Indeed, that is their intended effect—to have beneficial macroeconomic effects on growth and inflation. It is the same as other fiscal policy initiatives that also may have macroeconomic effects. But they are not monetary policy, and I think that is fairly clear.

This Committee, I take it as given, is responsible for monetary policy. At the end of the day, monetary policy is about controlling the monetary base or bank reserves. From the point of view of FOMC policy, what is important about the nonstandard tools and credit market programs is their effect on the monetary base. Again, to make this contrast stark, a policymaker controlling spreads cannot prevent deflation. A monetary policy maker controlling the base can. I should note that the ability to pay interest on reserves means that we face this issue generically, whether or not the funds rate is zero, because now, with interest on reserves, we can vary the monetary base independently of how we vary the federal funds rate. This makes it even more important that we make this transition in a way that clarifies the Committee's role.

Turning now to Brian's questions, I think the most important one is number 7, the one about the directive to the Desk. I believe that, if the directive is not going to specify a numerical target for the funds rate, then we need to find a way to specify some numerical target or range for

the growth in the monetary base or the growth in bank reserves. Now, I realize that the directive is to the Desk, which has control over the SOMA account, and under a strict constructionist interpretation, that doesn't necessarily equal the quantity of the monetary base. In fact, the discrepancy has gotten fairly large now with all of these credit programs. But if the Committee doesn't provide direction about the interest rate, that is fixed at a floor, and if the Committee doesn't provide direction about a monetary aggregate, the Committee really isn't doing monetary policy, in my view. The Committee can also choose specific asset categories for the Desk to buy for the System Open Market Account, but that shouldn't be confused with monetary policy as long as the monetary base is being determined at the margin by our credit programs. To put it slightly differently, individual Reserve Banks can propose their own credit programs, subject to the Board of Governors' approval. But if they want to monetize those assets, then I would expect that the Committee's prior approval would be required if an alteration in the base target were needed. That is what I would propose for the directives.

Question 8 flows directly from question 7. What we should communicate is that we are targeting a quantity of the monetary base or bank reserves, and this communication should be made in a way that is broadly similar to the way we talk about interest rate policy, stating that our goals are for growth in the monetary base that supports the achievement of sustainable real growth and our medium-term goal for inflation.

Question 3 also deals with communication, but more from the point of view of the funds rate path. I think in the present environment we should communicate that we anticipate that it will be near zero for some time—or something to that effect. Regarding part B of question 3, instead of citing the risk of deflation, I think we should presume some measure of success and communicate that we intend to use the growth of reserves to minimize the risk of inflation

running below our medium-term inflation goal. Regarding part C, I think we should stick to communicating our goals for inflation.

Questions 4 and 5 are about the means by which we grow our balance sheet and the monetary base, and I think the Committee should strive to maintain as much distance as possible from credit allocation. To me that means trying to have as little effect as possible on relative prices among nonmonetary assets, and I say that because I don't think we really know enough to second-guess those outcomes. So I would like to see us focus on long-term Treasuries.

Let me close with a few remarks about the Committee. In the 1920s, each individual Reserve Bank made open market operation decisions on its own, in an uncoordinated way. That proved ineffective, and at times we were operating at cross-purposes, one Reserve Bank selling while another was buying. In response, the Conference of Presidents formed the Open Market Investment Committee to coordinate our decisions and make all the purchases through the good offices of the Federal Reserve Bank of New York. But the role of the Board of Governors in that Committee was unclear. In fact, the Board at times tried to order the Open Market Investment Committee to do things that the presidents didn't want it to do, and they came to an impasse. This was remedied with the legislation of the 1930s that created the Federal Open Market Committee.

Now we do things that weren't envisioned then, that's for sure. But, surely, the guiding principle there was that they wanted one single governance body in the Federal Reserve System to be responsible for the monetary conditions in our country, and I take that to be the guiding spirit of the FOMC as well. This is the only body in the Federal Reserve System in which we all come together as one and subject ourselves to the discipline of listening to each other's different views and forming a workable consensus on the way forward. I agree, Mr. Chairman, that we

shouldn't be splitting hairs about legal niceties about who is responsible for what. I agree wholeheartedly that we should work toward consensus for that, and that is why I think the Committee has to have a serious role in monetary policy. I don't think that focusing the Committee's decisions on just what the System Open Market Account does and leaving all these other programs to have whatever affect they might on the base is the right way forward. Thank you.

CHAIRMAN BERNANKE. I won't try to respond, but I do want to ask you what your interpretation of the Japanese experience is. They had enormous increases in the base, no increase in M1, and no inflation.

MR. LACKER. First, let me say that there are models and sets of policy rules under which in the short run there is an irrelevance proposition, a kind of Modigliani–Miller theorem, about exchanges of monetary assets for short-term liquid securities that are virtually perfect substitutes and at the zero lower bound are definitely perfect substitutes. So that is definitely true. The point I made about the base in the long run is true as well. It has to do with eliminating certain possible conjectures that the public might make about our willingness to tolerate deflation. In the Japanese case, they were widely known to be quite eager to lift interest rates. It was known that they viewed the problems in the banking sector as exacerbated by low interest rates. They thought that raising real interest rates would provide more discipline and force more restructuring in the banking system. So they continually had to fight to keep the long end of the yield curve down. I don't view that experience as providing the best evidence about what a firm commitment to preventing deflation could be.

CHAIRMAN BERNANKE. President Fisher, you had a two-hander.

MR. FISHER. Yes, sir. I just want to ask a question—again acknowledging that I am the least well educated on this subject matter and not as erudite in my understanding. So this is a tutorial question. What we have been doing is implicitly acknowledging that standard monetary tools are not as effective as they could be because of the financial frictions that we have encountered in the marketplace. So we have been targeting dealing with those financial frictions. My question, President Lacker, is just from an educational standpoint: Do we know how much monetary base or balance sheet expansion would be needed to bring credit spreads back into normal order or to deal with these financial frictions? If we are going to target the monetary base, I worry about the operational consequences of doing so, since it seems to me that is an open-ended question. That is my question.

MR. LACKER. That is a very good question. We don't have any models to draw on because we don't have any data that would allow us to uncover a structural relationship between spreads and the quantity of the base. In any event, even were we to focus solely on our primary objectives for growth and inflation, I think we would have trouble there. I think we would have a great deal of difficulty figuring out a quantitative relationship between the monetary base at the zero bound and our objectives. But we started the way we usually do things—without a serious quantitative understanding of the relationship between the funds rate and growth and inflation, and we groped and groped and found our way. We are going to grope and try to find our way in this new regime, and we are going to have to think hard about it and make some guesses—by trial and error—just the way we learned how to do funds rate targeting.

CHAIRMAN BERNANKE. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. I, too, want to add my praise to the staff. It was an extraordinary set of memos, as Jeff indicated, making reasonably clear very difficult

literature on a complex topic. So I want to thank them. Reading through them was very helpful to me in trying to sort out some of my own views as well.

As we know, the nominal funds rate has been trading well below our target. It is near zero. The real funds rate is about minus 2 percent. The outlook for growth is now even weaker than it was before. In that case, we would want our policy rates to decline with the equilibrium real rate. But the zero bound, of course, may constrain us, and our ability to do that is complicated by the prospect of declining inflation expectations, which make more difficult our ability to let the funds rate fall. Once we are in the situation in which our policy rate is effectively zero, it does become a constraint on monetary policy—as has been well explained. In that case, theory suggests that our policy strategy must focus on ways of raising expectations of inflation, so that, near the zero bound, real rates can decline while nominal rates remain close to zero. One way to implement such a strategy is to credibly commit to keeping policy accommodative for some period of time after the funds rate is no longer constrained by the zero bound and before moving policy back to more neutral rates, thereby raising expectations of inflation. Eventually, however, we would need to bring policy rates back up in line with economic conditions, to avoid a permanent increase in long-run inflation expectations. That will be a tricky task to be sure. What we promise to do with policy in the future is of overriding importance in this framework.

Now, I am sympathetic to this theoretical analysis, but I have some concerns as well. The models that deliver these results are models of full commitment and thus presume that policymakers have already in some sense credibly committed to deliver on an inflation target and to deliver this strategy in the event that the near-zero bound becomes binding, which in these models amounts to having a price-level target as opposed to an inflation target. I would like to

think that we are committed and credible policymakers as far as the public is concerned, but, frankly, I have my doubts. I would feel more comfortable if this Committee had agreed to a well-articulated inflation target. Had we done so, the current task before us might have had a greater chance of success.

Unfortunately, we do not have that luxury. Consequently, I am somewhat less confident of how the public and the marketplace will react to our efforts. The trick we face now is how to make these promises understandable and credible. One difficulty is that the optimal policy for many models in these circumstances is very complicated and very difficult to understand, much less communicate. If we hope to affect expectations, we need to explain our policies in a way that the public can understand. Even approximation of optimal policy in these circumstances would involve price-level targeting, as I said, and it would be very difficult to explain, particularly since the FOMC has never formalized its inflation target, let alone a price-level target. I think we would be better off trying to communicate something simpler. First, we need to tell the public that we have lowered the funds rate as low as we think it is beneficial to go.

I do have some concerns about lowering the target rate all the way to zero. We still do not understand why having interest rates on reserves isn't working to keep the funds rate at its target, and there may well be unintended consequences of moving our target to zero, beyond those well articulated in the Board's staff notes. Whether that lowest rate is 100 basis points, 75 basis points, 50 basis points, or 25 basis points is very hard to say. However, given the law of unintended consequences and our lack of experience at the lower bound in this country, I do not want to go all the way to zero. But I think we do need to communicate clearly to the public that, when we reach whatever that effective zero rate is, we are done. A way of communicating that might be by giving a funds rate target or range, say, between zero and some percent.

There are two additional practical advantages I see that argue for bounding our target rate above zero. First, it will allow additional time for banks to become more proficient at managing their reserves, so that our interest-rate-on-reserves regime can become effective. By going to zero, we will effectively shut out that learning process. Second, I believe that when the time comes to raise rates, even by modest amounts, we will be in a better position to do so from a non-zero position than from a zero position. Next, we need to communicate that the FOMC desires inflation rates that are higher than perhaps our long-run target and communicate an inflation range we are aiming for. That is somewhat difficult because we have refused to communicate such a target in the past. We certainly need to communicate that we do not wish deflation in a very weak economy. We also may wish to convey that we are going to keep the nominal funds rate low for some period of time because we desire higher inflation, and that currently seems to be expected. Communicating this serves to increase commitment, and it also limits misunderstanding when inflation rates might temporarily be above a longer-run target. Thus, I think we need to say *ex ante* that we desire higher inflation rates than currently. As suggested earlier, this would be easier to communicate had we adopted a target earlier.

Regarding the use of nonstandard policy tools—in my view, we are already there. With the funds rate trading below target, we are effectively conducting monetary policy through quantitative easing, which I define as increases in reserves either by open market operations or by any other means. Indeed, expansion of our balance sheet, including unsterilized lending, is monetary policy, as it is monetizing the debt, either public or private. As an aside, I find the description of such a policy as nonstandard a bit peculiar since using balance sheet quantities as instruments of policy has had a long tradition in monetary policy. Indeed, even the Federal Reserve has targeted nonborrowed reserves at various points in its history. In principle, I have

no objections to quantitative easings of this form. But if that is how we view the new regime, then we need to publicly acknowledge that we have changed—that we have a new instrument—and communicate how monetary policy will be determined going forward.

Internally, we also need to resolve, as has been pointed out, how decisions about our lending and liquidity facilities will be made, particularly now that these have become the main instrument of monetary policy as opposed to being the mechanism for providing liquidity to improve market functioning, which is then sterilized. The FOMC, and not only the Board of Governors, needs to be involved in decisions about the magnitude of such lending and the choice of assets. In effect, these are choices about the extent of the Fed's balance sheet and its expansion or contraction.

There are a number of ways in which one might proceed. First, I believe we need to publicly convey that we have entered a new regime. Otherwise, it may look as though we have lost control of monetary policy or that the FOMC, which sets the target funds rate, and the Board of Governors, which largely is controlling the liquidity provisioning, are at odds. One obvious step would be to change the directive to the Desk, which is released in the minutes, in a way that clearly indicates that the new regime is now operative and that the FOMC has deliberately chosen to be in that regime. We would then have to communicate something about the size of the balance sheet going forward in terms of limits, ranges, or maximums of some form, such as President Lacker was suggesting. My preference is for the directive to specify objectives in terms of asset quantities rather than the level of non-funds-rate interest rates or interest rate spreads. That is question 7 of the staff memo. These latter two are not under our control and, even more so than before, reflect counterparty risk not liquidity impairments. Moreover, the

transmission mechanism from reserve quantities to rates and spreads is not precise enough for these to be operational objectives.

Setting a quantity limit on the size of the balance sheet is more familiar—similar to our experience with operating a reserves-based target. In this quantitative regime, it means that the Board of Governors wishes to implement new lending programs that expand the balance sheet—that is, that are not sterilized. The Board of Governors would have to seek approval of the FOMC to get such an expansion but not necessarily for the composition of the assets.

As I have articulated before, I believe we need to remain cognizant of the line between monetary policy and fiscal policy. I would prefer to see us purchasing Treasuries rather than riskier assets, as I would favor the purchases of long-term Treasuries over new 13(3) facilities. This refers to questions 4 and 5. To the extent that some of our lending programs are targeted at aiding specific markets, my preference would be to shift those assets from the Fed's balance sheet to the Treasury and substitute Treasury securities. This would help distinguish monetary policy from credit policy and preserve our ability to conduct independent monetary policy.

We also need to recognize that, as the economy begins to recover, these programs will need to be unwound, and this may occur before all financial institutions are fully recovered. Some of our facilities have termination dates and will shrink naturally as those dates are reached; but others, like the agency MBS programs or the TALF, will complicate the problem. Under a well-functioning corridor system, should we get there, the target rate will be somewhere between the upper and lower bounds, and we will have to shrink the balance sheet if we expect to hit our target. The reduction may be quite significant if it is accompanied by a general fall in the demand for reserves by banks.

Even if we imagine going to a floor system in which, in principle, we can raise the target rate without shrinking the balance sheet, we need to be concerned about the health of our balance sheet so that we can ensure that we can finance the interest rates on reserves and pay them. Note that if we do go to a floor system, the rate paid on excess reserves will become our instrument, and we will need to agree on how to set that rate going forward. In my view, that rate should be decided by the FOMC.

In summary, under a quantitative easing regime, the magnitude of the quantitative easing should be an FOMC decision. To the extent that the quality of assets on our balance sheet complicates future monetary policy decisions, the asset makeup of the Fed's balance sheet should also be in the FOMC's purview. One option that has been discussed is for the Fed to issue its own debt—other than Federal Reserve notes, I assume. I am uncomfortable with this proposal. It is likely to require congressional approval, and oversight will no doubt be sought since the Fed's securities will be public debt. This potentially generates opportunities for the Congress to control our debt ceiling and perhaps the pricing of our securities, in ways that may limit our ability to conduct independent monetary policy. Thus, I am very skeptical that this would be a good path to follow. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Yellen.

MS. YELLEN. Thank you, Mr. Chairman. This is an extremely important discussion, and I am glad that you have arranged a special session. I very much appreciate the comprehensive and outstanding memos from the staff. At our October meeting, we agreed to take whatever steps were necessary to support the recovery of the economy, and that principle guides my thinking on monetary policy at the zero bound. In most circumstances, I see few

advantages to gradualism, and certainly whenever we approach the zero bound, I think the funds rate target should be quickly reduced toward zero.

As to the level of the lower bound, my default position is that we should move the target funds rate all the way to zero because that would provide the most macroeconomic stimulus. For example, every 25 basis point cut in the target typically takes about 25 basis points off the prime rate and associated borrowing rates. The institutional concerns about Treasury fails and Treasury-only money market funds merit consideration, but I don't consider them serious enough to ban lowering the target to a very low level. Still, the surprising results we obtained from paying interest on reserves should make us chary about predicting the reactions of financial markets to new circumstances, so there may be some benefits from allowing the funds rate to trade between zero and, say, 25 basis points.

Let me now turn to the third set of questions on communication strategies. Looking ahead, I believe that there could be significant benefits to communicating effectively the FOMC's intentions to hold the target funds rate at a very low level. The Japanese experience at the zero bound suggests that this is one channel that can work, and the evidence suggests that our own guidance that began in 2003 similarly influenced longer-term rates. We learned then, though, that it is hard to convey the conditionality of such intentions and the multiple influences on the optimal setting of the funds rate. Still, I favor trying to include forward-looking communication on policy expectations in future FOMC statements.

We could also consider using the FOMC minutes to provide quantitative information on our expectations. For example, we could reveal the funds rate projections that implicitly accompany our quarterly economic projections, publishing ranges and central tendencies of the federal funds rate along with those for GDP growth, unemployment, and inflation. The

advantage of this approach is that it would provide a clear future path to the funds rate that is conditional on the economic environment pertaining to output and inflation relative to our goals. We did discuss this approach before, and I remember that a number of you were uncomfortable with it. But circumstances have changed, and there could be particular value now in adding the federal funds rate to our projections, and in fact, we could consider a trial run.

I believe that, in addition to providing guidance on the likely path of future interest rates, we should become more communicative about our longer-term inflation objective to avoid a decline in inflation expectations as inflation drops over the next few years below desirable levels. One way to accomplish this is to include quantitative information on our longer-term projections in the Summary of Economic Projections (SEP), as the Subcommittee on Communications has recommended. We could go even further to endorse a Committee-wide long-term inflation objective, although that is something that we would have to further consider carefully. We could supplement including longer-term projections in the SEP with language in the FOMC statement that is akin to that used in 2003, when the Committee referred to an unwelcome decline in inflation. Alternative B does take a step in that direction.

The bracketed language in alternative A goes further by specifying a medium-term Committee inflation target. This is a big step, and one that deserves thorough debate. There are theoretical papers demonstrating the potential benefits in a liquidity trap of committing to an inflation rate after the economy recovers that is higher than we would actually want ex post because raising inflation expectations lowers real rates, thereby stimulating the economy. In theory, by committing to more inflation than we actually want later on, we could generate extra stimulus now. But this strategy requires a strong commitment device because the Committee will have an incentive to renege later on when the economy has recovered. I do understand the

attractions of such a strategy in theory, but I am not at all convinced that the benefits would exceed the costs in practice. It would be enormously difficult to explain and could harm the Fed's overall credibility as an institution. Moreover, it is not only real rates but also nominal rates that influence housing demand, and any increase in longer-term nominal rates triggered by higher inflation expectations could adversely affect this key sector.

Let me now turn to the nonstandard policy tools that the FOMC and the Board have authorized. I wholeheartedly support the many actions that have been taken to increase liquidity in the financial system, as well as those designed to increase credit availability and lower borrowing costs. Going forward, I support both the purchase of agency debt and MBS by the System Open Market Account and purchases of long-term Treasury debt. Both existing evidence and the market response we just saw to the recent announcements and comments concerning such programs suggest to me that such purchases can push longer-term borrowing rates down. Other new programs—for example, to improve credit market functioning in A2/P2 commercial paper and in commercial and private-label residential-mortgage-backed securities—are well worthy of consideration. Naturally, the potential benefits and costs of each new facility or program need to be assessed before adoption. Formulating the guidance from the FOMC to the Desk regarding how these new programs should be described remains a challenge. I think a possible formulation could have the FOMC setting some objectives for levels or movements in Treasury yields or MBS spreads, but those open up thorny issues, and I think that this is something we really have to study further.

With respect to the FOMC's operating regime going forward, I oppose switching from a regime based on targeting of the fed funds rate to one based on a quantitative target for the monetary base, excess reserves, or the overall size of our balance sheet. The Board or the FOMC

or both, in my view, should consider the merits of each program on its own, without any presumption of PAYGO. Most of you probably recall that PAYGO was a budget device employed by the Congress to constrain the federal deficit to a target level. In our case, an overarching decision by the FOMC about the size of our balance sheet or the monetary base would force tradeoffs among our various programs to hit that total, similar to PAYGO.

Imagine, however, that the commercial paper market were to revive, allowing us to terminate the CPFF. Excess reserves would decline, but that decline would have no negative effect on economic activity, so there should be no presumption that some other program should be expanded to restore the monetary base to its previous level. Theory suggests that when the monetary base is increased by purchasing conventional SOMA assets, its expansion should have little or no effect on the behavior of banks or asset prices more generally after the zero bound has been reached. Abstracting from expectational effects, the evidence generally supports this view. While the quantity of money is surely linked to the price level in the very long run, most evidence suggests that variations in the base have only insignificant economic effects in the short or medium term under liquidity trap conditions. This makes the base an inappropriate operating instrument for monetary policy in a zero bound regime. As Japan found during its quantitative easing program, increasing the size of the monetary base above levels needed to provide ample liquidity to the banking system had no discernible economic effects aside from those associated with communicating the Bank of Japan's commitment to the zero interest rate policy. I think my views on this mirror those that you expressed in your opening comments, Mr. Chairman.

With respect to the directive, the version proposed in the current Bluebook specifies the types and amounts of mortgage-related assets that the Desk should buy and the objective of these purchases—namely, to boost activity in the mortgage and housing markets. Language of this

type is consistent with the policy approach I support, in which each credit facility program and asset purchase decision is judged on its own merits, according to whether it improves the availability of credit or lowers its cost, thus stimulating the economy. I support this approach to drafting the directive going forward. It is one way in which the Committee communicates the logic of monetary policy. But I think we do need to go further—as you emphasized, Mr. Chairman—in providing clear explanations to the public about the objectives of the various facilities, how they work, and why they are part of a coherent monetary policy strategy.

With respect to governance, I endorse the suggestion that you made, Mr. Chairman, about how we should proceed—that is, to work together collectively to forge and communicate a consensus view of the entire Committee to the public, while adhering to the particular responsibilities that the Board and the FOMC each have according to our governing legal document, which is the Federal Reserve Act.

CHAIRMAN BERNANKE. Thank you. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. I also want to thank the staff for preparing these memos. They are very stimulating, a great discussion of a very difficult topic, and I know it was a lot of work. I also want to agree with the Chairman that all comments in this arena are in the spirit of optimal monetary policy, which is the only way I would make any comments here at the table. What is the best policy? What will get the economy back on track soonest? That is always what we are trying to think about here. The truth is that there are lots of ways that you might think about what the optimal policy is, so that is what the debate is about.

Let me begin with the first part of the memo asking for comments saying whether we should go quickly or gradually to zero. I think the most important element is somehow to switch away from nominal interest rate targeting once the target approaches zero because at that point

the target just ceases to make any sense and you leave the private sector in the dark about any signals that they might be receiving about where the Committee intends inflation and monetary policy more generally to be going forward. To go quickly to zero is effectively what we have already done with respect to the federal funds rate, at least in terms of the actual federal funds rate, and if I am reading the Greenbook appropriately, according to the staff Greenbook forecast, it is evidently not going to help very much going forward. I think we did go to zero fairly quickly here.

I do not find the Reifschneider–Williams paper, which I know carries some weight around here, very compelling, so let me give the brief reasons behind that. For one thing, you are taking a model and you are extrapolating far outside the experience on which the model is based. That might be a first pass, but that is probably not a good way to make policy, and I wouldn't base policy on something like that. There are also important nonlinearities. This whole debate is about nonlinearities as you get to the zero bound, and in my view, they are not taken into account appropriately in this analysis. You have households and businesses that are going to understand very well that there is a zero bound. It has been widely discussed for the past year. They are going to take this into account when they are making their decisions, so you have to incorporate that into the analysis. That is a tall order—there are papers around that try to do that, and many other assumptions have to go into that.

The third thing I think is important is that, in other contexts, gradualism or policy inertia is actually celebrated as an important part of a successful, optimal monetary policy. Mike Woodford, in particular, has papers on optimal monetary policy inertia, and many others have worked on it. In those papers, it is all about making your actions gradual and making sure that they convey some benefit to the equilibrium that you will get. All of a sudden, in this particular

analysis, when you are facing a zero bound, that goes out the window, and I don't think that it is taken into account appropriately in the analysis. Also, it is thrown out the window exactly at a time when you might think that the inertia and the gradualism are most important, which would be in time of crisis when you want to steer the ship in a steady way. So I think that we have a long way to go to understand exactly how to behave near a zero bound, and I would not make policy based on that particular analysis or the subsequent work. But as I stated at the beginning, I think it is a moot point anyway because the effective fed funds rate is trading near zero. We are there. We have arrived.

Does the zero bound impose significant costs on financial institutions? In general, to this I would say "no," as the markets can adjust. More important, markets should be expected to adjust to the optimal monetary policy that we set. We are not in the business of keeping particular markets working in the particular ways that they have worked in the past. I don't want to disrupt things so rapidly that we upset the apple cart. On the other hand, I think the attitude should be that, given enough time, we should expect markets to adjust appropriately. I guess that is what I think about that issue of going quickly or not.

We talked for a minute about communication strategies. Three were mentioned in the memo. The first was to hold the federal funds rate at zero until specified conditions obtain. The second one was the FOMC will act to counter inflation below target, and the third one was to accept higher inflation later. In general, I think that the communication idea is important and valuable to think about in this situation. This is because it plays to the rational expectations, forward-looking aspect of the behavior of households and businesses. My sense is that the benchmark forecasting models embodied in the Greenbook or in a prominent private-sector forecast such as Macroeconomic Advisers may understate these kinds of effects because they

don't completely incorporate the forward-looking elements probably as much as we would like. That is because it is very difficult to do.

So I think that the communication thing is the right idea. But I do not think that communicating that we intend to hold the federal funds rate at zero until specified conditions obtain will have much effect because the market already expects that we will maintain the rate at zero until conditions improve. That strikes me as a way of saying that we have hit our constraint, we are bound by our constraint, and so we are effectively doing nothing further. I wouldn't want to get into that kind of message in the communication game, and the communication game is a tricky one. If we went that route, I think deflation would develop. The economy would become mired in a deflationary trap similar to Japan's, which I illustrated last time. In general, my feeling is that understanding the Japanese situation as something like a steady state is more how we need to think of it. In a steady state, the markets are clearing, the expectations are consistent with outcomes, and there is no pretense of returning to the previous situation unless you eliminate that steady state or somehow shock the system out of that steady state. In Japan the policy rate has not been above 1 percent for fourteen years. Fourteen years! That starts to sound to me as though the best way to think about this is that there may be multiple steady states out there, and you may be at risk that the dynamics will send you to the deflationary trap.

Our understanding about the dynamics of those—I know because I have worked on them myself—is very poor. Exactly how they would work and how you would get coordination on one versus the other is a very difficult question. That research is in its infancy. But the concept that you might think about the possibilities in the situation as being multiple steady states should perhaps be entertained more seriously around the table here.

It is much better to say, as far as a communication strategy, that we are constrained on interest rates and therefore we are switching to something else. I think a monetary base, reserves, or some kind of quantity measure would be fine. The reason you want to do this is that you want to remind the private sector that we control inflation and that we intend to keep inflation close to our target. This is a way to tell a story about how you are going to do that—a way to signal to the private sector. So to get the intended effect in the minds of the private sector, you eliminate references to the federal funds target and force them to rethink their views of monetary policy and rethink what we are doing. Of course, this has to be done in a reasonable way. It can't be done in a willy-nilly way. Also, all the issues that have ever come up around this table about monetary targeting and reserves and all the difficulties with that would come up again. But I think it is a great way to make the switch, much as Volcker did in 1979, and get the private sector to reorient to the new reality.

So, yes, it is very important to stress that we will counter inflation below target—I guess that is the second part of this question—and the idea of, well, you could say we are going to accept higher inflation later, perhaps much later. Although being a theory guy I like that because you are playing on rational expectations, it doesn't seem as credible to me with the private sector. The way we are looking at it now, you would be talking far into the future, promising some more inflation—you know, in 2013 we will do 5 percent or something like that. It just seems too far away to have a lot of effect on our situation right now.

Let me talk briefly about purchases of agencies and longer-term Treasuries. In general, I think this is okay, but I do not think we should expect a lot of impact from this. I think the effect will be marginal. I might remind the Committee that the famous Operation Twist from the 1960s was generally judged to be ineffective, and that is why I think the central banks did not,

generally speaking, play games on the yield curve in the past. I guess I would prefer agencies to the longer-term Treasuries because of the more direct correlation with the mortgage markets. I think that might help our case a little in this current situation, but I wouldn't expect a lot out of that policy.

Expansion of 13(3) credit backstops—I see this as likely, the way policy is going. I think it is helpful in some circumstances. I would like to see us work harder, maybe much harder, on the metrics for success of these facilities and perhaps rework or discontinue facilities that may not be meeting expectations. We saw some justification here earlier in the report by Bill Dudley, which I interpret as saying that the goal is to reduce risk premiums from what markets say they should otherwise be. Frankly, I am not sure in all cases what the purpose of the programs is. We have a lot of them out there. We have ideas. We should quantify that. We should be assessing, and then we should turn around and say, “This one is working. This one is not working.” I would like to see a lot more in that direction. I understand that we haven't done it so far because, obviously, we are running on all cylinders. We are fighting very hard here. But going forward, that is something we should be thinking about.

Our other nonstandard tools are useful. Again, I think we need to reestablish with the private sector that the central bank controls the medium-term inflation rate, even in environments where the nominal interest rate is zero. A simple way to communicate this is to start talking more about reserves, the monetary base, and the monetary aggregates. Again, this has to be done in a reasonable way. We understand that taking out a program is going to change things, and we need to communicate that effectively. We understand that the links between money growth and inflation may not be exactly what we would like them to be, but this is the situation we are in

because our interest rate channel has turned off. So in normal times, I would prefer to communicate in terms of interest rates, but that is not the situation that we are in right now.

Let me talk a bit about the directive to the Desk. In my opinion, the directive should be in terms of the quantity of reserves, letting the level of the federal funds rate trade as necessary—again, not unlike the Volcker situation. Presumably, the federal funds rate would trade close to zero on average. The prescription to express the directive in terms of reserve quantities has a long tradition here on the Committee. That language was used at least through 1994, if I have it correct. I remember when I was first in the Federal Reserve System we would talk about the degree of pressure on reserve positions, and so there is ample precedent inside the System to work this way. I think that would keep everything working smoothly in terms of governance. I see no reason not to go in that direction.

The introduction of new programs that are intended to have a minimal effect on the level of reserves, as occurred before September of this year, would not interfere with the reserves objective of the Committee. Others do interfere with that objective, and in that case they would need to be approved here. But my sense of the Committee here, though I can't speak for everybody, is that I don't think we would have any pushback on that, and we would keep the governance thing very clear if we did it that way. So that would be my preference. I agree with the Chairman that we want the best policy. We want to work in a cooperative manner, and I think that is one way to do it here.

When the market turmoil abates, then we should begin setting target ranges for reserves or monetary base growth. Once the crisis is past, then we can begin setting a federal funds target again, maybe coming back with a range initially for the federal funds rate and then gradually

moving back into the targeting regime, which I agree in normal times is a much better way to communicate policy.

Let me talk just for thirty seconds on the communication of alternative tools. Above all, we have to communicate that we control medium-term inflation even when nominal interest rates are zero and that we intend to keep inflation near target. That is the overriding objective in this situation. Otherwise, you are going to let inflation probably drift far below target, and the market will be scratching its head about, well, what are you going to do about it? Okay. Thanks very much.

CHAIRMAN BERNANKE. Thank you. Why don't we take fifteen minutes for coffee and then come back and continue.

[Coffee break]

CHAIRMAN BERNANKE. President Hoenig, whenever you are ready.

MR. HOENIG. All right. Thank you, Mr. Chairman. I would like to start off also by saying how much I appreciate this. I think it is an important opportunity for us not necessarily to agree—because committees are designed to bring different views together and, one hopes, to come to consensus—but to hear one another and to feel more comfortable knowing where we are as we move from here. So I really do appreciate this opportunity.

I am going to go through the questions in somewhat the order they were given, and let me begin by discussing the first two questions on policy strategy. The key issues here are how low to move the fed funds rate target and at what speed. I agree with the view that keeping your powder dry is no argument for not going immediately to zero. However, I think that there are other good reasons for not going to zero at this time. In fact, the condition of the financial

markets is a strong argument for being especially cautious at this juncture about going toward zero and about how fast if we were to choose to do that.

It is clear from the studies, at least the way I read the studies that were provided—which I would also add were just excellent—that the market dysfunction in some very important markets, including the Treasury market, increases substantially as you move toward the zero bound. At what precise level this occurs is not defined, but evidence does suggest that it is a genuine issue. Indeed, markets are clearly showing signs of impairment in that the effective federal funds rate is trading well below the current target of 100 basis points. It would be unfortunate if our monetary policy actions were to cause major and avoidable effects on the functioning of these markets, especially with the current fragile state of the financial system and when the benefits, as I interpret them, are not obviously significant.

I believe we can minimize the damage, so to speak, in these markets by maintaining the fed funds target above 50 basis points—I prefer 100—and by taking actions to ensure that the effective funds rate trades closer to the target over time, recognizing where we are starting from. The way to do this, of course, is to put limits on the size of the current swaps and liquidity programs—I suppose that is, as others have said, a size limit on the balance sheet—to the point that the Desk can begin to sterilize the reserve injections of these other programs. We are not there, I realize, but I would like to see that as the goal.

Turning to question 3 on communication strategies, there is evidence that communications about the future policy path may have measurable effects on interest rates and other asset prices, especially in circumstances where the markets and the central bank have different views about the future policy path that need to be reconciled. Especially in the United States, a statement about the policy path is likely to be more influential on market expectations

than a statement on inflation right now. As to the statement about the policy path, it is possible to have a significant effect on longer-term rates when market views about the policy path differ significantly from our views and there is credible commitment to keep the target rate low for a very long period of time. In general, I think that it is difficult to construct a very specific statement that is credible to markets and does not unduly tie the hands of this Committee. Consequently, if the Committee decides to adopt language about future policy actions, I would prefer more-general rather than more-specific condition statements. I would note that the more-general language we used in '03 through '05 appears to have been more effective than the Bank of Japan's more-specific conditioning statements during the period of quantitative easing.

As to the inflation communications, I would be opposed to a statement that suggests that inflation risks have threatened the dual mandate and that the Committee will act to mitigate this risk. I also expect inflation to come down over the next few months, but this reflects considerable unwinding of temporary factors, as we noted elsewhere, and the risk of deflation is modest at this time. I also would be strongly opposed to a statement that suggests that we would accept higher-than-normal inflation rates in the next few years. While such a statement might be appropriate in a deflationary environment, the U.S. economy is not yet at that point. Instead, our inflation rate has been higher than acceptable for the past five years, I believe in part because of our willingness—understandably, but still our willingness—to err on the side of accommodation. In the future, should inflation come in very low for a sustained period of time, such a statement about accepting higher inflation might have some benefit in preventing a sharp decline in inflationary expectations. But in today's circumstances, such a statement could lead markets again to conclude that we would respond very slowly to higher inflation pressure in the future. I think it would confuse and not actually clarify.

On nonstandard policy tools, I am okay with expanding the purchase of agency debt and mortgage-backed securities and longer-term Treasuries. Right now, all, in my view, are government guaranteed. However, I am not in favor of direct support of private securities through backstop credit facilities or other procedures. I am of the view that we have stepped far in the direction of credit allocation and have undertaken actions that are fiscal measures and not appropriate for a central bank, even in a crisis like this. In my opinion, the long-run costs to the economy and the Federal Reserve of engaging in credit allocation exceed the near-term benefits of supporting limited segments of the market. There is a relative price effect. In terms of agency and Treasury purchases, I agree that the immediate focus should be on reducing the agency spreads over comparable Treasuries. Treasury rates have come down a good deal, but agency spreads have widened. Normally, private yields move with the Treasury rates, as we know. However, the current crisis has largely broken the usual connection. Therefore, I don't think that actions to lower Treasury rates further will have much effect on other rates, and I would concentrate more on bringing other rates down. However, in the coming months, as the economy begins to recover, Treasury rates will likely come under upward pressure. To the extent that markets begin to incorporate a view of the policy path that differs from ours, I think we might want to consider purchases, as discussed here, of longer-term Treasuries at that time or perhaps altering our communication strategy then.

On the form of the directives, I would generally favor quantitative targets for Desk purchases. Although it will be somewhat difficult for this Committee to determine appropriate quantitative targets, I don't think we want to move in the direction of specifying targets for interest rates or spreads for these other instruments because the exit strategy for these approaches could be very disruptive for the financial markets.

In terms of communicating our use of nonstandard tools, if we go that way, I think that the more we say, the better for everyone. It is important to articulate the range of options under discussion; and when they are announced, it is important to discuss not only how they will be implemented but also how they would be expected to help in achieving our objectives. Right now confidence is quite fragile, as we all know, and so it is important that we send positive and constructive messages and not unduly surprise the markets with our actions.

Two other issues not directly related: As we talk about our policies going forward, I think we really do need to spend a little more time talking about what it means in terms of the deleveraging process that is going on. People talk about it freely, but I don't think it is clear in anyone's mind and would perhaps affect our actions. Also we need to talk about the potential effects of the fiscal policies that will be unveiled soon. Thank you very much.

CHAIRMAN BERNANKE. Thank you. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. I add my thanks to the staff for the excellent summaries, particularly those that covered the Japanese experience. My reading of that experience argues for acting aggressively and moving directly to whatever lower bound we consider the effective minimum. The economic outlook has deteriorated sharply, and as I look at the incoming data and our near-term forecasts, I find it reasonable to expect that we will see more troubling data by the time of our January meeting.

I concur with the Greenbook assessment that the outlook calls for a cumulative reduction of 75 basis points over the next two meetings. At the risk of jumping ahead a little, my preference is to get there at this meeting. If there is an argument for a more gradual two-step approach, it is that more communication is needed to explain the Committee's strategy and condition the markets for a zero lower bound policy regime. I was on the receiving end of this

argument at my Atlanta board meeting last week—which Don Kohn witnessed as a guest—at which some directors strongly resisted moving to the lower bound without, in their view, a clearly articulated statement about how policy will operate going forward. Mr. Chairman, in your speech two weeks ago you made a good effort to prepare the public for the possibility that the Committee may soon have to operate with policy targets that are unfamiliar. But it strikes me that there is a chicken–egg problem of when it is appropriate to lay out the new approach.

Again, I read the Japanese lesson as move aggressively but at the same time communicate very clearly the whys and hows of the policy course. President Plosser pointed out in his memo circulated last week—and I believe President Lacker noted last meeting—that we have at least implicitly entered into a quantitative easing regime already. The fed funds rate has been trading for some weeks near the level that we are likely to find as the lower bound. I think we must move to a decision at this meeting on communication strategy, independent of whether or not we move to the lower bound in one step. I don't see that this need is significantly reduced by delaying the move to the lower bound, especially if that destination is inevitable, as I believe it to be.

On the question of costs of the zero lower bound policy to markets and financial institutions, in my reading of the analysis and the background memos taken as a whole, maintaining the effective funds rate at a level somewhere near 25 basis points may help avoid problems in some markets that would otherwise arrive at zero. I think we have to be concerned that at absolute zero the infrastructure of some markets might atrophy as market participants shift resources in the direction of operations where profits are more attainable. These concerns might argue for stating the federal funds rate target in terms of a range, and I would support a lower bound in the range of 0 to 25 basis points.

As regards communication strategies, to state the obvious, financial market participants would prefer to know as much as possible about the level of rates in a zero lower bound regime, the duration of adherence to that policy, and when and on what basis the policy will change. The Committee can't fully satisfy those needs, but we can provide assurances that equip market participants with a clear framework for planning and anticipating change of policy. I think it is important to communicate that we intend to stay the course with this policy until some combination of materially improved conditions obtain in both financial markets and the general economy. That is to say, we should indicate that the policy is not short-term shock treatment to be quickly reversed, unless, of course, conditions dictate.

As regards indicating specific conditions that would inform a change of policy or a change of course, I favor an approach that addresses conditionality in general terms using language such as “the Committee intends to hold the federal funds rate target at this level until such time that it judges conditions are present for material and sustained improvements in financial market functioning and economic growth.” I prefer to reference general economic conditions rather than to use phrases like “near zero for some time” as in Bluebook alternative B. Further, I think it is appropriate to reinforce that our policy will be calibrated based on our longer-term inflation objectives. I am not comfortable with formal statements indicating that the Committee is willing to accept higher rates of inflation than it normally would find desirable. In my view, the goal is to avoid entrenching expectations that deviate too much from our explicit or implicit price stability objectives in both inflationary and deflationary directions. I think this goal is best pursued by stating our commitment to medium-term price stability. This statement can be in general terms, but I would also support the more explicit numerical reference in Bluebook alternative A.

As regards more purchases of agency debt, agency MBS, and long-dated Treasuries, my view is that open market operations should be conducted in the manner that enhances overall market liquidity in the most efficient and least disruptive way. This may well be by purchases of agency debt and MBS beyond the level announced. However, to the extent that enhancing overall market liquidity requires efforts to directly manipulate prices in particular markets beyond the federal funds market, I think we may be better served by developing specifically targeted facilities to do so.

As regards the further expansion of liquidity facilities, to date we have attacked dysfunctional market conditions in the interbank funding market, the Treasuries market, the commercial paper market, the mortgage market, and, shortly, the asset-backed securities market. The more we migrate with these facilities in the direction of general corporate debt and other nonfinancial issuers' markets, the more our policy actions involve contentious issues of moral hazard, possible distortion of the necessary process of relative price discovery, and the appropriate division of labor between the central bank and the Treasury. I think that we just need to keep this in mind as new facilities are considered. The extension and broadening of existing facilities, and possibly new facilities, may be necessary. I judge that the broad policy of targeted facilities has been successful to date.

Regarding nonstandard tools, I find myself in agreement with the thrust of President Plosser's suggestions. In a quantitative easing regime, it makes most sense to express our directive in terms of a quantitative target. And as regards your comments earlier, Mr. Chairman, I tend to look at this target question as a tradeoff between targeting quantities versus prices or rates, and I believe that the quantitative target approach is the correct approach, even if we decide to operate with the common understanding that our short-term objective is, for example,

to generate a particular path for long-term Treasuries or agency debt. Based on my reading of the literature and history as well as on my own experience, I have doubts about our capacity to reliably control specific relative asset prices, at least in markets unlike the federal funds market, where we are the monopoly supplier of the asset being traded. But that does not preclude setting quantitative targets for the purchase of particular assets and evaluating the appropriateness of those targets against a variety of outcomes, including the interest rates that emerge in those markets.

I am, however, predisposed toward the line of thinking expressed by President Lacker in his pre-meeting memo. By choosing to express the directive in terms of the monetary base or some measure of reserves, the decisions of the Committee remain in the range of traditional monetary policy. My conjecture is that a reserve base quantitative directive would help to draw a clear line between traditional monetary policy decisions in the purview of the FOMC and the enhanced credit policies implemented under 13(3) authority.

Let me move to the communication approaches. Again, internalizing the Japanese experience, we will be well served by a significant and coordinated communication effort. Our press statement might be supplemented by an additional explanation of whatever new operational procedures we adopt, followed by a public statement, perhaps even a press conference, by the Chairman. Throughout this crisis, we have been provided excellent support in the form of talking points. These have been a great help to me and my staff in providing accurate and timely information on the various policy actions taken by the Federal Reserve. With similar assistance in this case, I think we can collectively commit to providing the sort of common voice on the facts that will promote public understanding of the direction in which we decide to head. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Evans.

MR. EVANS. Thank you, Mr. Chairman. I, too, would like to add my thanks to the staff for an excellent set of memos—very good analysis. I would agree with pretty much everyone that the economic outlook and financial stress warrant further relief for financial conditions, so I am going to be supporting, ultimately, further quantitative easing as needed. I have to admit that I am not quite sure what the most effective form of that easing is. It just doesn't seem obvious to me. But I certainly embrace your suggestion, Mr. Chairman, of continuing the regular briefings, and when necessary, those should be meetings to affirm certain programs that are on the table. I agree with all of your comments about how important confidence is.

Let me turn to some of the specifics of the questions about the standard policy issues with the fed funds target. With a deep recession looming and inflation receding, I see no reason to keep our fed funds powder dry. There is no reasonable uncertainty at this point about the deepness of the recession or the financial stress, and I think the economy would benefit from further financial accommodation. Because we can't really hit our fed funds target because of the breadth of our lending programs that are on our balance sheet today, I think the damage to the Treasury repo and money market mutual funds is unavoidable at this point.

For our policy actions, I think that we should continue to communicate in terms of our objectives. In my opinion, this strategy covers most of the issues asked of us. The fed funds rate will be low for some time under our forecast. I don't think there is much doubt about that, and our forecast helped with that. Disinflation risks are part of this outlook, and I think that should be well understood. We can communicate that in our speaking. If our inflation target were explicit and we talked about it more—higher future inflation expectations than just, if it were the case, ½ percent or lower—that would be part of the communication calculus. As things stand,

our long-term projections may be adequate here, but more explicitness in general would be helpful. It is interesting to me that alternative A encompasses all of these in relatively muted language. Frankly, if we are expecting a big impact from that statement, I think we need to include a bold font typeface, [laughter] because I don't think it will be picked up necessarily. But I think it is really well done.

In terms of the questions on particular interventions, the memos brought forward pretty clearly that the effect of the interventions depends on the size of the operations and where the markets are. The memos were very good about talking about individual markets and making me aware of a number of details, but they were often pretty much in isolation of how they would flow through to other markets. It is not exactly clear to me how important that segmentation or separation is to achieve the goals that we are hoping for from those interventions. I suppose in well-functioning markets you might expect more of those funds to be flowing across those markets, and so you would be generally providing market liquidity. It would flow around. In the current situation, with more stress, there probably is more separation. Is that ultimately going to mean we are more effective? I am not even sure because there is the added stress that has to be dealt with. So the particular interventions are not exactly obvious to me, and portfolio rebalancing could have implications.

In one of them, there was a correlation matrix—for a particular size of operation, where agencies are influenced in one way or Treasuries are influenced—about when we would see other prices move around. That is possibly a guide to this leakage. But, of course, those are unconditional correlations, as I understood them, and I am not exactly sure how the exogenous interventions that we are talking about would translate from those correlations. It is really an identification problem at some level. My takeaway from that is that I find most comforting the

quantitative easing additions that improve total market liquidity. It seems to me that the Treasury and agency purchases are the safest. When we get into credit allocation, we have these facilities in place, and we will probably need to do more. Mr. Chairman, you talked about the unwinding consequences that the Committee will have to worry about, and I think that they are also pretty important.

Last, on the nonstandard approaches for quantitative easing and what that means for the Desk, I guess this is a harder problem with the dual governance issues than I had really anticipated. I would have thought that it was relatively straightforward—once we hit the zero bound on the funds rate that we would identify that we need to expand the balance sheet. I kind of like it in terms of the asset side. The Committee could authorize a broad range of what that would mean. We could reaffirm the existing lending programs—not approve them, for that is the role of the Board—and point to the important role that they are playing. Our statement could provide guidance on the sizes, which would pretty much just be a restatement of the existing sizes of the programs. But we could provide ranges of how the Committee might expect that to be conducted over the intermeeting period if something arose that required an addition, or we were being briefed on new programs as they were rolled out, that could be part of it. All of that said, I accept your good faith approach—the more we talk and the more that we understand this and are consulted, it should be adequate.

In terms of communicating to the public, under the approach that I just mentioned we would basically state that the fed funds target is essentially zero because of all of the lending facilities. We'd have some statement about the range of the balance sheet, something that is not supposed to be so constraining but that would be somewhat helpful. The descriptions of the Fed lending programs would be part of that—they are well done—and the term sheets, and we would

reinforce our commitment to the policy mandates that we have in our statements and our forecasts.

So, just to conclude, I think we can go further down the quantitative easing policy path. I am not really convinced that this is going to do everything that we are hoping, and I am a little concerned as we get to the point where we have an intense desire to effect more that we might tend to disagree a little more. But I am confident that we will think it through very carefully.

Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Kohn.

MR. KOHN. Thank you, Mr. Chairman. I want to join the others in thanking the staff for their work. These are very difficult issues, and I think you have brought to bear a lot of what little information we have on these subjects and have kind of kept me out of trouble for the last week. My wife thanks you as well. [Laughter]

I think the questions in the first set are largely moot, as a number of people have said. We are already close to the zero bound, and because I think moving there aggressively under the current circumstances is the right thing to do, I don't have any regrets about that. Like President Yellen, I came into this situation, at least a couple of months ago, wondering why zero wasn't the right lower bound. I recognize the market issues that might obtain—sort of as President Bullard said, I wonder whether markets won't adjust as we go on—but so close to zero, the difference between 6½ basis points and zero isn't going to matter very much. But I think we ought to keep our eye on how markets are functioning, whether they adjust, and where we should be.

Now, once we are at a minimum—and I think we ought to get wherever we are going at this meeting, as soon as possible (a number of people have said that, and I agree)—we can't

influence actual expected short-term rates with our actions. We do need to rely on other methods to change relative asset prices—longer-term rates relative to short-term rates, private rates relative to government rates, nominal rates relative to expected inflation—and that is where the communications and the size and the composition of the asset portfolio come in. Both the communications and the portfolio actions can be effective and influential, but I think we need to recognize that we are losing our most powerful policy instrument. The effects of these other aspects of our policies are uncertain, and it will require some trial and error to figure out where we are going.

With respect to communications, I do think it would be useful to tell people the conditions under which we expect to keep rates low and the conditions under which we would be prepared to raise interest rates. I think we can tell them if we think it is going to be soon or if it is going to take some time. But I agree with your point at the beginning, Mr. Chairman—and President Plosser and others said this—we should emphasize the conditions rather than the time period. We shouldn't commit to a time path. I think something like this should help long-term nominal rates better reflect our expectations for the path of policy and could be especially important if markets come to anticipate a firming before we actually anticipate firming. It could come into play, particularly in the context of some massive fiscal stimulus, which seems to be coming. I don't think we want the effects of that fiscal stimulus diminished or crowded out by increases in long-term rates that are based on a false assumption about the effect of the fiscal stimulus on monetary policy.

I think being clear about where we want inflation to be over the long run will probably help anchor inflation expectations a bit better—keep them from drifting down when inflation itself is very low and keep real interest rates from rising—and thereby reduce the odds of

persistent deflation taking hold. We will have an important opportunity to take a step in that direction if we agree to our longer-term forecasts in January. As President Yellen noted, the Subcommittee on Communications is recommending that. I think voting on an inflation target would be a substantially bigger step. That is, we would have to reach agreement on that. It could be a more powerful signal of our intentions, and it might become necessary. I certainly think we ought to discuss it. It has a lot of implications that we need to look at, including where we will be in a couple of years. I think we need to be careful.

A number of people—outside commentators, anyhow—have noted that they thought that we kept our eye too much on macro variables in the low inflation period and that gave rise to these asset-price increases. I disagree, but I think it is an open question. I have seen comments from other members of the FOMC wondering whether we should look at more than just the path for consumer prices when we are setting monetary policy. But let's not do something now without thinking about how it is going to play five or ten years down the road. I also agree with your point, Mr. Chairman, about congressional consultation. Having an inflation target won't have any effect if it is repudiated by the Congress. As soon as we make it, it could have a negative effect.

I think changes in the size and composition of our portfolio can affect relative asset prices. I guess I think, President Evans, that changes are more likely to be effective at times like these, when markets are illiquid and participants have very, very strong preferences for one sector or another. When private parties seem unwilling to lend to each other, substituting Federal Reserve credit for private credit can be quite effective. Carefully designed programs can reduce the cost of credit and increase the availability of capital to households and businesses. I see where we are as a natural extension of where we have been. Really since August 2007, we

have been using our balance sheet to try to stimulate credit markets. At first we sterilized that by selling Treasury securities. Then we sterilized it by the Treasury selling Treasury securities. Then that program ran out, and we thought we could sterilize it by interest on excess reserves, and it didn't work. But I don't think we have crossed a sudden barrier in the last month or two. It is true that the base has begun to rise because we have run out of the other sterilization options. But I do think it is a natural extension of where we have been for a while.

That brings me to the monetary base. I find myself more skeptical about the effect of increases in the monetary base per se than what I hear around the room. Such increases I think are supposed to affect asset prices by inducing banks to substitute into higher-yielding assets. Give them a bunch of reserves, and they substitute into higher-yielding assets like loans. But I wonder how effective that is when short-term rates don't decline with the increase in the base because we are pinned at zero—that is, we are in a liquidity trap—and when banks are reluctant to expand portfolios because they are concerned about capital and their leverage ratio. So I don't really understand the channels through which an increase in the monetary base, under these circumstances, is supposed to affect economic activity. We have seen a huge increase in the base over the last couple of months and no effect on the money supply. Now, that is very short term, I agree. Your observation, Mr. Chairman, was that we saw a big increase in the base in Japan. I agree with President Lacker that they weren't as dedicated to that as they might have been, but I just don't see any evidence that the base isn't going to be absorbed in a declining money multiplier rather than an expanding money supply and increased activity. I don't understand the channels. I think the base, as we are setting this out, is determined by the people who use our credit facilities. I think that is very important, and I don't want to upset that. So I would be very, very hesitant to restructure the directive in terms of the quantity of reserves or the monetary

base. I would have to understand much better what that means, and I wouldn't want to constrain the use of liquidity facilities with such a restraint.

I think the situation in the 1970s and early 1980s was very different. First of all, the October 6, 1979, meeting that went to monetary targeting was a natural evolution of a lot of work that had relied more and more on the money supply as a way of communicating about policy over time. Second, it was about constraining inflation, holding it down. I do agree, Jeff, that “too much money chasing too few goods” is something that people kind of understand. I am not sure that they understand the opposite—too little money chasing too many goods, or whatever, as a cause for deflation. I think it would be very, very difficult to communicate what that meant and how that was supposed to work. So it is a very different situation than we had back then.

I do think we can help by increasing and directing our asset expansion in particular directions. We have seen evidence, as Bill showed us in the MBS and GSE purchases and the commercial paper facility. Also I favor the consideration of purchases of long-term Treasury bonds. I think that will help to lower longer-term rates in an environment of large liquidity and term premiums. I would consider expanding our purchases of MBS and GSE debt, if it looks as though they might help bring down mortgage rates. I agree with others who have said that they would be very reluctant to specify such operations with a rate target because I don't think we can really control that. So I think that talking about quantities would be much better, as we have done with the MBS. I would also continue to look for other ways to use our discount window to help restart credit markets or substitute for private markets in which the functioning is impaired, and I would be open to a variety of possibilities.

I agree that credit allocation is very uncomfortable for the central bank. We are into that. We have been into that for a while. I wish we didn't have to be there. But I don't see any evidence that the private sector is going to start lending anytime soon on its own. If I saw that some of those other markets with which we weren't involved and weren't likely to get involved—like the junk bond market that Bill showed us in that chart—were beginning to open up without our help, that would be fine. But nothing is happening out there in the markets that we are not touching. I don't think that is only because everybody is waiting for us to intervene in those particular markets, because there are a bunch of them that they know we can't or won't intervene in. So we need to remain open to possible further credit market interventions.

This raises very difficult governance issues. Our inability to sterilize and the huge increase in our balance sheet raise very difficult questions about how the Board and the Reserve Banks together carry out their shared responsibility for achieving the objectives of the Federal Reserve Act. It is not so much about legalities as it is about how to reach the best decisions and how best to explain those decisions to the world at large. We have always worked in a collaborative and cooperative way, and I think we need to continue to do that. Crisis management strains the normal collaborative and deliberative mode of Federal Reserve operations. Decisions get made on short notice, often over a weekend, but as you said, Mr. Chairman, we can work at improving our collaboration. The FOMC, as a body, will continue to have the major influence on our communications about the outlook, the likely path of rates, and the acceptability of the inflation outcome. The key elements in our communications have always been and will remain under the control of this group, and that is a large part of what we will be doing. I agree that we should, when consistent with fulfilling our obligations to protect financial stability, consult more and earlier on liquidity facilities.

I hope that we can emerge from this discussion and subsequent ones with an agreed-upon framework for what we are doing and what motivates it under these unusual circumstances. I think we—the Federal Reserve System, the FOMC, all of us—should consider issuing an explanatory document on these matters that we can all agree to. I wrote this before this meeting. Now that I have heard the meeting, I am not sure it is possible. But I think it might be worth the effort. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Are you in charge of drafting it? [Laughter] President Stern.

MR. STERN. Thank you, Mr. Chairman. Let me make some comments, first about nonstandard policies, then about communication, and finally a bit about the balance sheet, governance, and so forth. With regard to the nonstandard policies, Bill Dudley's charts 24 and 25 showing the spreads narrowing with intervention and spreads tending to widen elsewhere seem to make a pretty compelling starting point at least, not only for the value of the programs in place but perhaps for considering additional ones. I guess I am kind of wary about that at this point. A sentence in one of the staff papers that pertains to this—let me also compliment the staff for the quality and the volume of what they have produced here—caught my attention: "It is difficult to provide specific recommendations for further intervention at this time, in part because facilities that are most obviously valuable to address current conditions have already been put in place or are in train." That is one concern I have—that we may be heading toward diminishing returns. In addition, as I think somebody has already observed, there is a possibility that, if we carry this too far, we interfere with what would otherwise be normal and healthy market adjustments. Some of that is going to have to work its way through. Finally, one thing from the Japanese experience is the so-called preservation of zombies, which, whatever you

might say about its short-run value, clearly wasn't of value to the long-run health of the economy. So my preference as far as nonstandard tools would be to emphasize purchases of longer-term Treasuries and of GSEs and mortgage-backed securities. At least at this point, that is where I would want to put my emphasis.

With regard to communication, as I think President Evans said, reiterating our longer-run objectives, indicating—given conditions as we perceive and expect them—that the funds rate is likely to remain low for a considerable period of time or, alternatively, that reserve provision is going to remain generous, however we want to say it, is acceptable. There could be some value, if we can get there, in specifying an inflation target, and certainly the effort to provide longer-term steady-state forecasts will work in that direction. I think we need to be a little careful, though, as Governor Kohn suggested, to think through a variety of issues that are associated with this. I can even imagine that, even if we were to agree on an inflation target and even if the Congress had no objection, it might be a bit of a distraction at this point and there could be a lot of debate external to the System whether it is the right target and why or why not, and so on and so forth. Of course, that is not our principal concern at the moment.

With regard to the balance sheet and governance issues, I certainly can get comfortable with the consultative, collaborative approach you described. There might be some value from a credibility point of view—I put this more as a question than a conclusion—in trying to specify some numerical range for the base, reserves, or something in that the public could monitor whether in fact we are doing what we say we are doing. To the extent that we are concerned about the possibility of excessive disinflation or of deflation, this would be a way for the public not only to take our word for it but also to monitor that in fact we were conducting policy in a way consistent with that. President Lacker, in his discussion, indicated that emphasizing the

base was a way to emphasize, at least in the longer run, that we weren't intending to let inflation get too low. I put this as a question—this could be a way of helping credibility because the public could monitor it. Thank you.

CHAIRMAN BERNANKE. President Rosengren.

MR. ROSENGREN. I would also like to join the chorus of people thanking the staff, in particular the staff members who were working on the memos on Japan. Having done some work on Japan myself, I know that getting the institutional details right is far from easy, particularly when you are not a native speaker. So I much appreciated the work in that area.

The probability of a severe economic downturn accompanied by deflation is too high, and the effective fed funds rate is already very close to zero. This combination calls for aggressive, nontraditional policies. My reading of the parallel Japanese experience highlights two general principles. The first is one that President Stern highlighted. There is a macroeconomic impact from what we do in bank supervision. Banking problems should be addressed expeditiously, with realistic write-downs of problem assets and recapitalization of problem banks. In particular, we should prevent perverse incentives where problem borrowers are supported while healthier borrowers are starved for credit as banks try to satisfy balance sheet constraints and avoid further loss recognition. Second, monetary and macroeconomic policies to address financial dislocations should be proactive and forceful rather than released gradually over an extended period of time. In the context of the questions that we have been asked to address, I'd like to encourage us to take three actions.

First, I would explicitly state that the Committee seeks to achieve a core PCE inflation rate of 2 percent in the medium term. For the second time this decade we are approaching the zero nominal interest rate bound. Setting too low an inflation target threatens to place us in our current

predicament too often. In contrast, by setting an explicit target at 2 percent, we will indicate our resolve to take nontraditional policies necessary to achieve that goal. Because the inflation target adopted under the current circumstances would be designed to raise inflation expectations and stimulate the economy, this may be a particularly propitious time to adopt such an explicit target. A 2 percent target would also be consistent with our own revealed preference as the core PCE inflation rate has averaged 1.94 percent, very close to 2 percent, over the past ten years.

Second, during the past recession, 30-year conventional mortgage rates reached $5\frac{1}{4}$ percent. The current rate has been hovering at $5\frac{1}{2}$ percent and has reached that level only since we announced our program to purchase \$600 billion in GSE debt and mortgage-backed securities. The housing sector remains the epicenter of our problems. Given the current outlook, I would suggest using facilities to move toward an interest rate target, for example, by reducing by 100 basis points from current levels the conventional 30-year mortgage rate. Lowering the 30-year conventional mortgage rate would reduce the cost of purchasing new homes, encourage refinancing by those with sufficiently high credit scores and equity in their homes, and support fiscal policies that are targeted at more-troubled homebuyers. It would help troubled and healthy homeowners, stimulate the most distressed area of our economy, and help financial institutions exposed to problems in housing. Such a target would be understandable to the general public, and actions already taken have made some progress in this area and serve as an example. I would focus on the mortgage rates rather than the Treasury yield curve because lower Treasury rates seem to be having little effect on rates paid by households and businesses, and the desire to avoid credit risk has already brought 10-year Treasury rates to lows not seen in most recent recessions.

Third, our facilities for short-term credit have been successful. Short-term commercial paper rates have fallen as a result of our programs, as was highlighted by Bill Dudley, and the

rollover risk at the end of the year has been mitigated by the commercial paper program.

Increasingly, however, I have been hearing complaints about banks pulling lines of credit when they are up for renewal primarily because the banks are facing balance sheet issues. One possible remedy might be to extend our commercial paper facility to highly rated firms for longer maturities than are covered by the commercial paper market. All three suggestions would be easily communicated and understood by the public, would address directly the areas of the economy in which financing has become particularly difficult, and would highlight our resolve to avoid a deflationary economy, such as Japan experienced for over a decade.

I would just end with the note that I agree with the Governor Kohn on the monetary base for two reasons. The first is that I do not think our facilities have been particularly well designed to set a quantitative target. Many of the facilities are open ended. Go through the following thought experiment. Suppose a money market fund once again breaks the buck. The AMLF will probably go up \$150 billion or \$200 billion. I would expect the commercial paper facility to go up. I would expect that most of the bank facilities would also go up. If we were limited by a quantitative target at the very time that we actually want those facilities to be expanding, we would be constrained. I do not think that is a good idea in the current situation. The second reason comes from my reading of what happened in Japan, and this goes to some of the remarks that the Chairman made. The monetary base in Japan did expand very rapidly. When banks are capital constrained, expanding reserves very rapidly does not translate into an expansion of the broader balance sheet. So we could very easily see a situation in the United States in which banks continue to be capital constrained for some time. Despite increasing the monetary base, we might not see an expansion in terms of other assets. That is exactly why I agree with the Chairman that we should be focused on the asset, not the liability, side of the balance sheet.

CHAIRMAN BERNANKE. Thank you. President Pinalto.

MS. PIANALTO. Thank you, Mr. Chairman. I also want to start by thanking the staff for the excellent background materials they provided. While I certainly wish we were not in this circumstance, I do think that this is a critical conversation for us to be having at this meeting, and the background materials were extremely helpful. I am going to proceed directly to the questions that Brian provided as I believe they cover the major issues well. I have some general answers to the questions, but I think that we are going to be learning a lot in the process of implementing policies into ever more uncharted waters.

On the question of whether the Committee should quickly move the target fed funds rate toward the zero bound or get there more gradually, I strongly support moving quickly. I agree with the memos that the Japanese experience points to the value of moving aggressively. Also, we have already moved beyond the targeted fed funds rate as many have commented, and so we are merely confirming a reality.

On the questions pertaining to the costs to financial markets or institutions and the limits to our rate reduction, I think the notes covered very well the costs to some money market funds. Bankers in my District have also expressed concerns about additional margin squeezing that they will face with a lower fed funds rate. So, yes, there are significant costs to financial markets and institutions. However, I believe that the current environment and our need to allow the fed funds rate to trade close to zero trumps these costs, and in my view a 25 basis point fed funds rate is an appropriate minimum.

Regarding the question about the communication strategy, I think another lesson that we have learned from the Japanese experience is the role of effective communication and the role of anchoring inflation expectations. So I do see the benefit in communicating that the Federal Reserve

intends to hold the target fed funds rate at a very low level until specified conditions are obtained, and that the Committee sees a sizable risk that inflation in the coming quarters could be appreciably lower than is consistent with price stability. I also see that there may be some value to communicating that our policies might result in a temporarily higher inflation rate in the future, both to indicate this possibility and to signal a willingness to make sure that the risk of deflation dissipates before we alter our course. Although we have not adopted a formal inflation target, I do believe that the release of our longer-term projections as suggested by the Subcommittee on Communications will be helpful in managing inflation expectations.

Moving to questions 4 and 5 regarding nonstandard policy tools, my own preference is for a mixed strategy—that is, some direct Treasury and agency purchases and some expansion of our private asset purchases using the TALF. I support your view, Mr. Chairman, that we should keep our focus on expanding the asset side of our balance sheet. I think we should consider increasing the purchase of agency debt and mortgage-backed securities beyond the levels that we have already announced. I also see advantages in initiating large-scale purchases of longer-term Treasury securities. These actions should help to lower interest rates across a broad spectrum of longer-term assets. As we have talked about, direct purchases also fit more naturally into the FOMC's governance structure, whereas the TALF-like approach is more awkward to fit into the FOMC's purview. As some have commented, direct purchases might expose our System Open Market Account to some capital losses, but that seems an acceptable risk for monetary policy in such a challenging environment.

I do think that the focus of our FOMC meetings next year should be on evaluating and adjusting the composition and size of our purchase of securities in response to changing economic conditions so that the directive need not build in explicit conditioning on market and economic

circumstances. Further expansion of our credit backstop facilities under section 13(3) is also likely to be beneficial in current circumstances. I think the CPFF has been a helpful addition to our facilities, and I am hopeful that the TALF will be equally effective. So, in summary, I favor applying all of these approaches and remaining flexible. I also believe that a clear starting point on how the Committee would formulate its directive would be to direct the Desk to purchase specific quantities of assets. As a formal matter, we might need to include “up to” in our directive language, but we should anticipate that the Desk would be successful in meeting that objective. I think that the uncertainty surrounding the effects of our actions makes longer-term interest rates or spreads too unreliable to be communicated as targets.

Finally, on the question of effectively communicating nonstandard policy tools, I liked the language in some of the Bluebook alternatives for our policy options. However, because of the historic nature of implementing nonstandard policy tools, I think that a good communication plan should also include a formal press conference or a speech in which, Mr. Chairman, you announce the changes. That would serve to emphasize the change in our procedure and eliminate some of the uncertainties about the role of the fed funds rate target. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. First Vice President Cumming.

MS. CUMMING. Thank you. Again, I'd also like to thank the staff for the excellent notes. It's useful to start out with our near-term goals, as most of us have done, to provide stimulus and support for the economic recovery and to prevent too large a fall in inflation. The root problems, I think, are worth focusing on for a second: insufficient global demand, hurdles to economic activity from a severely impaired financial system, and as I'll report tomorrow, behavior that is influenced by confusion and fear among businesses and households that are tending to reinforce the downward trend of the economy.

That environment, I think, gives us some goalposts to look for in terms of framing the strategy. I find very appealing Marvin Goodfriend's characterization of the duality of the central bank's policy. We have a monetary and what he calls a credit policy at the same time. In normal times setting the fed funds rate influences financial conditions, especially credit markets, in a fairly predictable manner, and this Committee from time to time has discussed where overnight rates and financial conditions have diverged. In these times, we're observing a major disconnect between overnight rates and financial conditions that is reflected in huge spreads but also in a lack of transactions and in nonprice rationing in markets.

So coming back to the question of what some of our goals are: To address the problems that we see, communication is really the essential element, and we should be aiming for maximum impact in whatever actions we take and also in our communications. I think, therefore, that we should bring rates down now as far as we think we can take them. But the more important decision is articulating what we are going to do going forward, why we are doing it, how long we are planning to do it, and under what conditions we would stop doing it. Some of the confusion that is out there about what the Federal Reserve has been doing reflects the fact that our operations really cover two very different kinds of things. On one side we are expanding liquidity and supporting the recovery of financial markets by the CPFF, the MBS purchases, and the upcoming TALF. In other facilities we are preventing catastrophic market outcomes through asset disposition, such as the Bear Stearns transaction, AIG, and the recent transaction we've had with Citi. In addition, there are a lot of technicalities and legalities to these facilities that make it hard for the general public to understand what we are doing. So more fundamentally we need to communicate what we want to accomplish, and that importantly involves our commitment to price stability, as many have said here

in the sense of keeping prices in the medium term rising in line with our 1½ to 2 percent preference, and our commitment to a resumption of sustainable economic activity.

When I turn to look at what kind of facilities we should be thinking about going forward, once interest rates are down to their minimum level, there are really a few things that I would highlight. First, in many ways we could influence expectations about short-term policy rates through our long-term debt purchases, as many have said. In particular, when we try to lean against expectations expressed in the yield curve that rates are going to rise soon, and we're seeing some of that today, we can intervene in markets that directly affect major elements of aggregate demand, and I would see that as a very important role of our agency MBS program and also the CPFF to address where firms are really being starved of working capital. Because of its structure, the TALF provides a very broad umbrella under which we could do intervention, again, where we see credit markets failing and economic activity impeded by the lack of finance of a wide variety. I think that we should look at the CPFF and the TALF more as backstop facilities that provide the credit we need but also build in a kind of exit strategy so that, when spreads come down, there is an opportunity for the market basically to tell us, "You can wind this down now."

We need to communicate the criteria by which we are choosing these markets. We have mentioned these three big market segments. I think simpler is much better than having something that's very complicated or having many, many facilities. As part of this, the crucial thing is to provide to the marketplace some kind of conditional commitment. If we don't feel that we're ready yet for the inflation target, certainly between this meeting and the next we really need to think about what kind of conditional commitment we could make—what conditions in the marketplace would lead us to feel that our work was largely done.

I would also note, though, that the historical notes made the excellent point that the risk is that we withdraw stimulus too quickly—that we believe the patient is healing when, in fact, the patient is merely stabilized. So our commitment must be both ambitious in its level and compelling as it is communicated to the public. I think we need to return to the expository approach that the Fed and then-Governor Bernanke took during 2002 and 2003, by which we carefully laid out the elements, the foundation, and the expected outcomes of our approach in that period. As valuable as it was in 2002-03, it is even more valuable today, when confusion and anxiety are shaping behaviors that will amplify the downward forces in the economy. I also endorse the recommendation that many have made to think about a press conference. The need for reassuring communication to the public is, I think, very great.

I would add two more thoughts. Of course, it is really crucial that we are coordinating our policy with Treasury, and there are many ways in which we do that today—certainly, we need coordination of fiscal and monetary policy. I frankly would like to see more of our asset-disposition activities taken on by the U.S. government so that it would be easier for us to describe the facilities that we have as supporting the market and restoring market functioning. I also believe, as I'm sure that many of you do, that we will probably need some kind of agreement with the Treasury vis-à-vis our exit strategy. I particularly underline the real possibility, which several have mentioned here, that we may want to raise interest rates well before the markets are really fully healed or fully sustainable by themselves. We'll need to be able to negotiate that in the sense of both the path we take and the understanding we have with the fiscal authorities.

Then just to conclude here, I also very much want to endorse the point that President Rosengren made about needing to fix the banking system and doing it sooner rather than later. There really is no ability for the economy to function without a strong banking system. Certainly I

believe that you are hearing, as I am, of many instances in which the rationing that is going on through the banking system right now is reaching a destructive potential. In that kind of world, I think we need to turn our attention to that. The Federal Reserve is one of the most important supervisors in our country and in the world, and I think we can do a lot to lead to the very tough actions that need to be taken there. Thank you.

CHAIRMAN BERNANKE. Thank you. Several people have mentioned press conferences. I should say that we're looking very carefully at the idea of doing quarterly press conferences with the release of the projections, along the lines of the Bank of England. If we decide to do that—and input from the Committee is welcome—the first one would be in February. It would coincide in this case with the Humphrey-Hawkins additional presentation. I have a speech at the London School of Economics in mid-January in which I will be able to lay out a lot of these issues. I don't know if that's soon enough, but I don't know whether we think we should do more communication or not. That's something we can talk about tomorrow perhaps, but I did want you to know that we are looking at the quarterly press conference model. President Fisher.

MR. FISHER. Mr. Chairman, my colleague Harvey Rosenblum made an interesting point the other day that we're at risk of being perceived as migrating from the patron saints of Milton Friedman and John Taylor to a new patron saint—Rube Goldberg. [Laughter] By the way, I'm going to give a speech on Rube Goldberg next Thursday—I do think that it is important not to make it needlessly complicated. So I think it's very important that we have this discussion. I welcome the discussion and welcome the papers so that we can not only have a cognitive road map for ourselves but also figure out how we're going to clearly articulate a deliberate change in regimes to the public. I want to underscore what you said at the beginning of this conversation, Mr. Chairman.

We should be guided by what's best for the country—period—and not get into internecine concerns about governance. It's what's best for our economy and what's best for the world economy.

I'd like to talk about three points. I want to talk about the current predicament in very general terms. I want to touch on governance and then on communications. First, with regard to our current situation, it's pretty clear that purchases and sales of fed funds have been distorted by risk aversion, distrust of counterparties, and fear of pending bank insolvencies. Quantitative easing resulting in massive excess reserves, we've talked about that; complications arising from the transition to paying interest on required and excess reserves—as you pointed out earlier, this is a regime shift that we're still trying to effect and perfect; the need for GSEs to invest overnight money at any positive rate; bank capital shortages that prevent the GSE funds from being arbitrated; and quite possibly the FDIC's temporary liquidity guarantee, although that seems to be a minor factor—in these circumstances, focusing on the fed funds target seems to me to be a diversion of our focus and energy, and I sent around a memo to that effect. Moreover, the short-term riskless rate, the T-bill rate, is virtually zero. Reductions in the targeted fed funds rate cannot lower the riskless rate any further.

Adding to our difficulties is the fact that we simply do not know how financial intermediaries or money and capital markets will behave and function when interest rates get this low. We do have the Japanese example. We are not Japan. I have worked and lived in Japan, and we have learned from what they've done. But the fact is that we have no sustained experience in the modern era in the United States with T-bill rates and the effective fed funds rate trading near zero. We do know that money market funds will become unprofitable if rates get much lower. Let me just say to those who sort of dismiss that, I think we might look a little foolish if we drove some of them out of business, especially after creating two special facilities to support their continued

intermediation functions on the basis that they were critically needed for their roles in the commercial paper market.

Furthermore, I've spoken with several community bankers, and I subjected Governor Duke to some of that during her visit to Dallas. Their unanimous response to a further reduction in the targeted fed funds rate would be to set a floor for their prime rate at its current 4 percent level or some of them are suggesting that they would switch to a lending rate based off LIBOR—again, with a floor to protect their margins, which are being severely tested. To the extent that larger banks depend on deposits as a source of funding, reductions in the fed funds target rate from current levels could damage their profitability also, and this goes to one of the points made by President Rosengren and First Vice President Cumming. We do have to bear in mind that it's important to have a vibrant and healthy banking system across the country.

In this new and untested interest rate environment, it is, in my opinion, tenuous to assume that the fed funds target rate is the marginal cost of funds to a bank and that all of the usual and customary costs in pricing relationships will hold. If deposit rates approach zero, as they are likely to do for all but the zombie banks, it's probable that the demand for currency will increase, a prospect that I would prefer to avoid. To sum up, we're in an interest rate environment in which the linear properties of our model are likely breaking down. So where does this leave us?

It leaves us with the critical need to refocus our strategy and communication efforts on what we have been doing and will continue to do—namely, restore the public's confidence and trust in financial intermediaries and financial markets, reduce term liquidity and credit spreads to something approaching more-normal levels, improve the flow of credit through financial intermediaries and financial markets, and restore economic growth and reverse the spillover of inflationary pressures from asset markets to the markets for goods and services. Operationally it seems to me that we need

to shift our focus away from the fed funds rate target—parenthetically, which we cannot control—to something that we might better influence—namely, the reduction, or perhaps a better phrase, the normalization of liquidity and credit spreads. The fact is that we have already entered this domain, and by stating it that way—that is, approaching the normalization of liquidity and credit spreads—we would have a clear exit strategy, and we could discontinue this focus when spreads return to something approaching normal.

This has the additional advantage that it is a conditional commitment. I would avoid any reference to specific targeting for the monetary base or the size of our balance sheet. We simply do not know in current circumstances how fast or how far, as I referenced earlier in my question to President Lacker, we need to expand our balance sheet to restore normal spreads or normal credit flows. Some of our facilities—for example, the MMIFF—have worked with almost no usage. Others have acquired extensive usage. In sum, it seems clear to me that focus on the target fed funds rate is misplaced in the current environment. If we are to restore the functioning of the credit markets, we need to address that objective explicitly.

With regard to governance, in addition to reading the 21 papers that were sent out and the Bluebook, this last week I read a novel called *World without End* written by Ken Follett. It should have been called *A Book without End* because it goes on for 1,000 pages. [Laughter] It's about the plague in the fourteenth century. One of the interesting lessons from reading that book is that the monks in that period, who dominated society, reverted to the old orthodoxy learned from the Greeks. They were the best educated. They were the Oxford-educated intelligentsia. But by reverting to the old orthodoxy, they did not learn what the nuns learned, which is what you learn from practice. The reason I mention this, Mr. Chairman, is that I think there is great value, as we try to figure out and articulate the new regime, to have these shared discussions at the table. I want to

thank you in that sense for your comments, not only about good faith but also about the need to have this discussed broadly within the FOMC and not just adhere to the old orthodoxy. All of us have different levels of experience and backgrounds, and we learn from those different levels of experience and backgrounds.

Finally, on the issue of communications, one of my colleagues often says that, if you're Elton John, you are expected to sing "Bennie and the Jets" every single time and at every single concert. It seems to me that, once we get and hone our message, we must repeat it incessantly and stay on message in order to have it penetrate. In Austin, you gave what I consider to be a hallmark and—not trying to flatter you—for monetary policy a historic speech. What was Bloomberg's first reaction? The Fed may cut rates further. The message was lost. We all need to stay on message. But I think it's very important, whether we have press conferences or whether you give speeches, that we need to hammer the theme of the new regime that we are about to embrace over and over and over again. So I didn't pick "Bennie and the Jets" just because of your name, Mr. Chairman. [Laughter] But I do hope you remember that we must have that constant refrain. If we're going to sell something, we have to sell it by repeating it, not asking the press to interpret it for us but to get the message out in—excuse me, Governor Kohn—full frontal view. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. I'm in awe of a presentation that has Rube Goldberg, the Black Death, "Bennie and the Jets," and full frontal view all in it. [Laughter] Governor Warsh.

MR. WARSH. Thank you, Mr. Chairman. I'm a visual thinker. [Laughter] So I'll begin where Governor Fisher ended his remarks. To thank Brian, David, and Nathan for two reasons: First, obviously I thought you did a great job, and second, I didn't want to be the first jerk around this table not to acknowledge you. So I felt some burden now to be 15 for 15 and thank you for the work.

Let me make three background points and then try to answer some of the questions that Brian asked of us. First, I think we have two risks in the zero lower bound discussion. One is overstating the importance of our judgments today in helping the economy get back to potential. The second risk is understating the importance of prospective Fed actions given our frustration that our policy accommodation to this point has only partially offset the deterioration and credit weakness in the real economy. The first trick is getting that balance right, recognizing that our actions are important but probably not determinative, at least solely determinative of the outcomes, given what markets will end up doing with the messages we send and given the need for fiscal and other policies. The second trick is that, notwithstanding our announcements or what we take to be our target, the effective rate is likely to be very close to zero for quite some time. So maybe more precisely in this context, the zero lower bound problem could be understood to mean that the expected protracted period of weakness will come because monetary policy is unable to provide enough stimulus to generate a robust recovery. That is true as far as it goes, but we shouldn't assign more import to this problem than it deserves. That is, the protracted period of weakness is not simply or largely about monetary stimulus. It's about a broken financial architecture of which the official sector response, including monetary policy, is only one piece. At the same time, monetary policy can't be as efficacious as desired and is constrained by these zero lower bound problems. Thus, we don't have a free pass to stand idle. Incremental interest rate policy may be of limited value, but it's still relevant in stimulating demand.

Second point—the judgments today are made harder by the degree of market discontinuity and market dysfunction. I take very seriously the risk that reducing the fed funds rate to zero could further degrade the functioning of financial markets and do so at a very inauspicious moment. Getting that market functioning is our way out of this mess, and though we would in normal

markets expect money market mutual funds and regulated and unregulated financial institutions to adjust, there's a lot about their behavior in the past six months that hasn't followed normal custom. I worry at this time, when we're trying to get markets to respond, about putting an incremental burden on their reaction function. The current period is distinguished from 2003 and other antecedents by the broader systemic fears about our system of credit intermediation, and I agree strongly with the idea advanced in the materials that were presented last week that the level of the Treasury repo rate is more critical to Treasury market functioning and the functioning of other markets than the target rate or the effective fed funds rate. The deterioration in repo market liquidity that Bill and others spoke about correlates strongly with lots of other bad things—fails in Treasury markets, the inability to predict market clearing prices, and the inability to hedge other assets. During this period, in which we have seen this unfortunate behavior, everything else seems to have gone wrong as well, so it is hard to draw any causation here. But I do worry about those market effects.

As a third point, on balance I'm inclined to believe that the macroeconomic benefits of pushing the envelope to get to zero may be outweighed, particularly now, by additional financial market problems. In more normal circumstances, disruptions in these markets could be addressed quickly by changes in market practices. But there is reason to worry this time how quickly they could come.

Let me turn now to some of the questions that Brian raised. First, on the question of whether we should move or keep our powder dry, I think it's clear that, once we decide and we know where we want to go, we should move as swiftly as possible to get there. But I think the key word there is "readiness." So when we want to make this final move, we need to be ready in three respects. First, the Board and the FOMC have to be ready in terms of what our consensus is.

Second, the markets must really understand why we are making this change in regime—they need to comprehend fully what is driving our policies. Third, we have to have an operational ability to perform and execute, and that’s really a question for Bill and his colleagues as we continue to expand our facilities.

The second question was about the cost of reducing the fed funds rate target to zero. I would put it simply that the zero lower bound in my opinion isn’t zero, but it is lower than 1 percent. I’m not sure if it’s 25 or 50, but I would be probably cautious about pushing beyond the point of our comfort.

Third, in terms of the benefits of communications, we are judged by our actions far more than our words, and I think the markets have gathered a view of what our reaction function is. So when we talk about the need for our communication language to emphasize the conditionality of it, I think that’s quite consistent with how we’ve talked previously about our forecast. Our judgments on policy are dictated by our forecasts. As our forecasts change, so too might our decisions. So I think I’d put our communications in that regard.

In terms of introducing or reintroducing an inflation target at this point, I’m not sure that it would, at least in the short and medium term, drive the kind of market reaction that we would expect. I think markets would be wondering, after long discussions over the previous eighteen months about subcommittees and communication policies and inflation targets: Why now? Is it that we’re actually now more concerned about inflation expectations and the medium-term view of what’s consistent with price stability than we were during much of that period in which we were talking about inflation that was higher than our expected range? I’m not sure I have been able to internalize and conclude why that would be appropriate at this very moment to introduce into our statements.

In terms of nonstandard policy tools and the purchase of large amounts of agencies and Treasuries, I think that the Chairman's point about the composition of the asset side of our balance sheet is key. In a different regime, I would have been uncomfortable about agencies. But my view is that they are wards of the state at this time. The U.S. government has said so. To the extent that we can provide our fire power to both the Treasury market and the agency market, it is probably worthwhile to do both. We probably have an opportunity to test the importance of some of these nonstandard policy tools in executing the timing and process and making public our announcement to this point of providing up to \$600 billion in aid to this market. I would prefer to avoid setting a ceiling on conventional rates—that's not the role of the Fed. Better to leave that announcement to others. I think it is also critically important with respect to agencies that we make sure we understand the posture and policies of the new Administration. If they think that the agencies are effectively going to be treated like wards of the state, I'd feel more comfortable.

In terms of the expansion of credit backstop facilities, my first concern would be that I'd defer to Bill and his colleagues about operational bandwidth. Second, I think we probably have an opportunity—and you do, Mr. Chairman, in your speech early next year—in announcing what our criteria are and what our framework is for expanding our credit backstop facilities. Third, I'd say that we do need to address, probably in that same period, our exit strategy and clean up any edge problems that might have developed during this period. The CMBS market is in lousy shape. I think that's not largely because of what we've done, but there is a gravitational pull on the bit of liquidity that is out there to the residential market and away from the CMBS market. There's probably an opportunity for us to try to clarify that in the context of the TALF program.

Finally, in terms of other nonstandard tools that would be particularly useful, again, I think it would be important to state publicly in all of our discussions the need for the fiscal authorities to be

taking first losses and ensuring that the new Administration, the new Treasury, is prepared to support the Fed in that so that they're in the credit-loss business and we are really just using our facilities and knowledge to put that into place. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Kroszner.

MR. KROSZNER. I thank you very much. I will make it 16 out of 16 on the excellent work of the staff, but I think also something that comes through from that is that we have to have a great deal of humility given the situation that we're in. We can use analogies from Japan. We can use analogies from other parts of history or from Sweden, but there are a lot of parts that are unique, and a lot of what we're doing is, as I think President Bullard said, outside where some of the data have been in the past. So we do have to come at this with a little humility. Actually, the Japanese experience weighs very heavily on me because that's perhaps one that I know well and in which I see perhaps the closest analogies. One of the facts that President Bullard mentioned is extremely important and weighs heavily on me—they have had their target rate at less than 1 percent for almost a decade and a half. But something that President Bullard didn't focus on is how little growth they have had in that period. We are moving into an era of very low interest rates, and we want to revive growth and think about how we can do that, and that gets to the overall objective. I think we also want to avoid the problems that Japan has had because it would probably not be a good idea to be in a regime in which we feel forced to have the fed funds rate at less than 1 percent for a decade and a half.

Clearly, there are theoretical, empirical, and practical reasons for moving rapidly. The Japanese example is very clear on that. Practically, we are largely already there. Also, I simply can't imagine that over the next 6 or even 12 weeks we're going to get data that would make us think that we shouldn't be moving interest rates down or that we aren't in a state of the economy in

which we have to do something fairly aggressively. We already see some disruptions in the markets because of the low effective rates. We have to be mindful of these consequences and monitor them closely.

As has been mentioned a couple of times, we have the comparison of the markets in which we've intervened that seem to be working a bit better and the markets in which we didn't intervene that aren't working as well. Although I actually do agree with that interpretation, we have to be a bit careful about that in going forward because there could be some unintended consequences, such as in commercial paper. A1/P1 interventions can help that market out, but they could have some unintended consequences for A2/P2. Just because the other markets are not improving as these are, we have to be careful about drawing conclusions that it must mean that we need to intervene in market Y and market Z and A, B, C down the line. That's not to say that I think that what we've done so far has not been helpful. I do believe that it has been, but I think we just have to be very, very careful about those unintended consequences.

Communication strategy, as so many people have said, is crucial because we're stepping into a new world. We basically have a lot of explaining to do, and one of the key things to explain is that we have not gotten to the end of our tether, that there's still a lot more that we can do, even though a lot of the world thinks that, once we have "given up" on interest rates or gotten down to our lower bound, we can't be that effective. We have to be very effective in arguing that, no, that's not the case. In the discussion, a number of people mentioned that trying to provide a framework for understanding this is really, really crucial. Explaining that we may need to keep interest rates at a low level for a while based on the conditions in the economy is important, but that doesn't mean that low interest rates are not helping economic recovery. We should be expressing concerns that

inflation could fall below the level that we consider consistent with our dual mandate. I think that's something that is also very important to talk about—methods that we could use to attack that.

I think this does in the broad sense raise the value of an inflation target. But I would be very concerned, as I think President Stern and some others mentioned, at this point about getting into that debate because, even if we did go to the Congress and a few members of the Congress said that's okay, that still would be a very big debate and I think a distraction from exactly where we want to go. But we need to think about that over the long run, particularly if we start to see the inflation rate going down or if we see that we're not being effective at fighting expectations of deflation. But I think for the moment that it would be too much of a burden on our communications and would perhaps cause too much confusion in the market. They have gotten all of these new facilities. We're stepping into a new world potentially depending on our decision tomorrow. If we also then introduce an inflation target at this time, it may just be a lot to digest. But I think it is a discussion that we need to continue to have.

In terms of the specifics of the actions that we need to take moving forward, once again, I think the lessons of Japan are important. We want to focus a little more on the asset side than on the liability side. The Chairman characterized things in a very effective way to argue that we're not doing precisely the same thing and that we potentially can be more effective. I think it's not just about some particular reserves level. The example that President Rosengren gave is one that weighs on me. We need to be nimble in responding to different problems. We may have new facilities. We may purchase more or fewer securities. Being constrained by or picking out a particular number for reserves doesn't seem to be the most effective way to build our credibility that we will fight these problems. Although there is a long history in the Fed of looking at things like the monetary base, nonborrowed reserves, and such, I think there are good reasons that we moved away

from them. Of course, I'm from the University of Chicago, and so Milton Friedman is spinning right now, [laughter] but money demand has not proved to be a very stable function over time, particularly now. The money multiplier has certainly been anything but stable, making it more difficult for us to focus credibly on a particular reserves level to see what the ramifications are for the rest of the economy. That is not to say that we shouldn't have an eye on those issues. But given the uncertainties, I would be reluctant to focus on that. I think a focus on the asset side is much more effective.

Ultimately in all the programs and actions that we undertake, we have to think about the exit strategy, as a number of people have mentioned. I think that's very important for us both with longer-run expectations and in just making sure that, as we do intervene, we minimize the amount of distortion. In some sense we are purposefully distorting what the market is doing now, but in some sense we think of the market as being distorted from where it normally would operate. So we have to be at peace with that. We need to do that. But we also want to make sure that as much as possible we try to restore that functioning. Making clear that we do these things with reluctance and do want to get out of them to restore the normal market functioning will again be a very important part of our communication strategy to make this all work. Thanks.

CHAIRMAN BERNANKE. Governor Duke.

MS. DUKE. Thank you, Mr. Chairman. I'd like to make it unanimous in thanking the staff. For me, particularly, you have extended the process by which every hour that I've been here has been deeply educational and have helped put the things I've been doing since I got here in some sort of a context. Along those lines, the one thing I thought I might address is the economics of the world from whence I came—and that is the economics that bank managers are facing today—because I think that's an important part of this discussion. I'm sure most of you have heard from

bankers really pleading not to lower the rates, and there's a very good reason for that. I actually expanded the number of banks that I normally talk to—in addition to Federal Advisory Committee, the North Carolina bankers and some of the Texas bankers—and the plea was unanimous: Please don't lower the rates. The reason for that really goes to the prime rate, not the fed funds rate. If the prime rate moves down, I do believe that dollar for dollar it's going to reduce bank profitability. If we were to go to zero, if prime were to go to 3 percent, I think it would take our entire banking system on an operating basis to an unprofitable level.

To give you an idea, the non-interest operating costs of banks have not changed an awful lot over the last seven or eight years. They fluctuate about 5 basis points, but it's a little over 3 percent of assets in non-interest operating costs. The non-interest income that offsets that may be 60 basis points. So you are looking at a 240 basis point hurdle that margins have to get over. The interest yields right now are 40 basis points lower than they were in 2002, going into the 1 percent fed funds rate. Credit costs are certainly higher. They're higher by 10 to 18 basis points. Fee income is lower by 10 to 16 basis points. If you put all of that together, profitability is already lower by 60 to 75 basis points. On a marginal basis, deposit competition is fierce. CD rates are in the 3½ to 4½ percent range. Money market accounts are around 3 percent. New entrants into the insured deposit arena are intensifying this competition still further, and the banks are incredibly bitter about nonbanks coming into that arena. Lower-cost funding is available from some nondeposit sources, but the banks are feeling pressure from their examiners to limit usage of noncore funds, including discount window borrowings. A bank issued the FDIC-guaranteed debt last week, three years at a cost of 2 percent plus the 100 basis points that they pay the FDIC. So that cost is 3 percent. All of these costs are in excess of the prime rate.

On the asset side, the banks are shying away from purchases of securities because of mark-to-market concerns. The new loans that are being booked are being tied to prime, but they're tied to prime with floors, with those floors generally in the 5 to 5½ percent range. Some existing loans have floors, although many do not. Home equity loans, credit card loans, and smaller bank commercial loans are typically tied to prime. Prime might reference that bank's own prime—and some banks did not lower their prime or were slower to lower their prime the last time we changed the fed funds target—but more commonly it will reference New York or Wall Street prime. Larger loans and mortgages are more likely to be tied to LIBOR, although I understand that competition in recent years has moved toward contracts that give the borrower the option at any time of using a prime-based rate or a LIBOR-based rate.

With pressure on both sides of the interest margin, credit costs are sure to rise, and with the prospects for fee income down, the banks are uniformly begging for no change. When asked how they might manage with lower rates, most said that the only choice they would have at this point would be to shrink their balance sheets rather than compete for business at a negative spread.

The other rates that affect bank profitability have not moved with the fed funds rate, and so in this case it is about spreads, not rates. Now, it's certainly possible that individual banks are exaggerating the effects that lower rates will have on their institutions and that their reactions will not be as strong as they claim. However, my question is, What if they are right? If we get down to a 25 basis point regime and we find out that it simply puts our banking system out of business, how do we then reverse that and move back up, and how do we explain that change?

I'm not as familiar with the economics of money market funds, but I have to assume that their pressures are similar, and the note indicates that they might be willing to operate at a loss for a time. But the more we communicate that this would be an extended amount of time, how long

would they be willing to operate at a loss? No matter where we set our fed funds target, there's really very little that we can do differently, as in starting tomorrow. The current actual rate reflects a broken market. There are much lower volumes in the fed funds market right now, and a much higher percentage of those are with institutions that can't earn interest on reserves.

So, Bill, I still see some hope for the fed funds market coming back. Over time, as banks get more comfortable with each other, the opportunities to get a little higher yield as well as to open up an unsecured borrowing source will lead banks back into the fed funds market. But if that market did start to revive a bit, I would hate for us to be in a regime in which, at that point, we had to pressure it again to bring the rates back down. For this reason I think suspending the fed funds target as a policy tool rather than lowering it might be the safer course because it would let prime find its own level and the banks might not necessarily feel pushed to lower prime if we did not change our target.

I had a number of notes on communication, most of which have been said. But the one point I'd like to make is that, when I think of communication, I think of it on a retail level. I think about our communication to consumers and to business owners rather than to the more sophisticated audiences that the notes tend to refer to. I think we have to be sure that we do communicate on a retail level—that we communicate on the nightly news, local newspaper level. Many of you have backgrounds in education, and I think at this point it's our job to teach and explain what we're doing and how it might affect individual consumers and individual businesses. In that sense, it's important that we stay on message and that we have very clear terminology that we use over and over again. Even in the conversation today, the term “quantitative easing” was used differently by different speakers.

I do think we have to be careful, again, on the fed funds rate target. I noticed the same thing that President Fisher did as far as the Chairman's December 1 speech. Any time we talk about the fed funds rate, it is the only thing that's going to be reported. Finally, I also think we have to be careful about references to the experience in Japan. We should emphasize the differences and the reasons that we expect to be successful because, in many places, references to the experience in Japan lead people to believe that we're in for a very, very dismal future, and I don't think that's what we want to communicate. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Thank you all. I actually would like to try to distill some impressions from our discussion and, going even a step further, maybe draw some very tentative conclusions for the statement and decision tomorrow. I do that in the spirit of fairness because tomorrow you have a chance to rebut what I say now. So let me just draw some tentative conclusions, and if you disagree or if there are multiple options, perhaps you can respond in our go-rounds tomorrow.

First, with respect to the level of the fed funds rate, I think generally speaking people want to be aggressive. They recognize the difficulty, the severity, of the situation. Some were somewhat fatalistic, saying, well, we can't really keep the rate much above zero anyway, so it's somewhat of a moot question. With that said, Governor Duke was just the last of a number of people who did point out that there are various institutional, market, and other considerations that would suggest trying to keep the rate above zero if possible, although she had a very interesting alternative, which is just not to have a target, which might be helpful in at least a few contexts. Let me ask Bill about feasibility here. Suppose for the sake of argument that we had a range of 25 to 50 and we set the interest rate on reserves at 50. Would that be feasible? Could that work?

MR. DUDLEY. It might work eventually, but right now I would guess the spread between the effective funds rate and the target would be bigger than that. We're sort of running that experiment right now. The market consensus is that the Fed is going to reduce the target 50 basis points at this meeting. That's incorporated in the current federal funds rate trading because it's the lowest interest on excess reserves during the two-week maintenance period. We're trading in a range of about 10 to 15 basis points. We don't have that much information, but right now that spread is probably 35 to 40 basis points. So I think we probably couldn't do what you said. If we worked on it—you know, took the GSEs and made it so that they couldn't sell fed funds and did a few other things—maybe we could get that spread down to 25 basis points over time. Brian, do you have anything?

MR. MADIGAN. I agree.

CHAIRMAN BERNANKE. All right. Well, that's relevant information. So it may be that our options are a range of 0 to 25 or no target, but those are two options that I would point to. I should also say, as I discuss the statement here, I think that in a very real sense this is a transitional meeting. I mean, we can't go from 0 to 60 in one meeting, and I think we have to allow for the possibility that there will be further refinement as we go forward into January. So I raise, as the first point, exactly how we state the policy decision. Do we make reference to the funds rate? Are we okay with a 0 to 25 range? I hear and recognize the concerns about too low a rate, and it's just a question of feasibility in the short term. One advantage about having a range is that we could indicate that over time we're trying to get to 25. That would be at least slightly helpful, I think.

The second issue I want to mention is communication. I thought there was actually a good bit of consensus. A number of people spoke somewhat approvingly of an inflation target or some broader inflation objective, but I didn't hear much sentiment for doing it immediately or in the very

near term. I think it is something that we ought to take very seriously, particularly if inflation starts to drop further. We should do it in a prepared way, and I need to consult and so on. But I agree with the comment that this is a long-term objective that we have. This may be an excellent opportunity to do it because not only is there no tradeoff between growth and inflation in this context but also there won't be any suspicion that we're choosing a rate that's convenient. I mean, we are probably below the rate that we would choose as a target. So it might be worth considering in the longer term.

For tomorrow, though, I did hear quite a bit of interest in conditionality in terms of the ZIRP (zero interest rate policy) type of strategy. We had—I think it was in alternative A, paragraph 3—a statement that said, “The Committee anticipates that weak economic conditions are likely to warrant a federal funds rate near zero for some time.” I wonder if that meets what people were talking about, or were there people who wanted to express it more explicitly in terms of our qualitative objectives or otherwise? I hear a willingness to have at least a qualitative conditionality for our policy. I would invite overnight or tomorrow any alternative phrasing that people think might be more effective. It is an important decision to make.

The third issue—and I'm just making very high level comments here; I have a whole bunch of notes that I'm not going to repeat at this point—has to do with our various programs and purchases. I think that the great majority of the Committee is comfortable with MBS and Treasury purchases. At least that's what I heard. I took a majority to be in favor of, or at least accepting, the credit facilities that we have. There were requests for more metrics, more explanation, more criteria, more exit strategies, and so on, and I think those were all valid points. What I take from this is that these asset-side programs, the credit facilities as well as the MBS and other programs, are part of our new regime, that most people view them as part of our new regime, and that the

inclusion in our statement of some reference to these kinds of programs, as in the variants that were circulated in the Bluebook, would probably be desirable.

A point of considerable discussion and some contention, with respect to both governance and communication, was the use of a measure of the base or excess reserves as a quantitative indicator of monetary policy. With those who advocated it, I think there were really two objectives, if I may. One was to have a measure of monetary policy that would influence expectations and, if effective, would raise inflation expectations and the like. But another function of that, I believe, was the desire to have, from a governance perspective, the FOMC setting some kind of indicator of monetary policy. With respect to the use of, say, the base as a measure of monetary policy, I would say that for tomorrow we're pretty far from being able to feel comfortable doing that. We haven't done the work. We haven't done the analysis of the transmission mechanisms. We haven't looked at what monitoring ranges and how they might work. So it would be a radical step to take in one meeting. I leave that open as we continue to think about what the right indicators of policy are.

I understand the desire for governance. I think what I would propose—and again, by all means, respond tomorrow—would be, at least in our directive, that we have, as somewhat suggested already, the Committee affirm or otherwise indicate its approval of quantitative programs—\$500 billion MBS; \$100 billion GSE debt; \$200 billion for TALF, if you are willing; et cetera—and pursuant to that, that the Board make a regular practice of bringing any new program or any expansion of existing programs to the FOMC for review and discussion. That may not be entirely satisfactory, but it would certainly indicate to the public that the FOMC has reviewed it from a monetary policy perspective, and it would appear in the directive, the minutes, and so on. I put that out as just a possible compromise on that issue.

I think those are the main elements of the statement and the directive. I heard a lot about a desire for an explanatory document, talking points, other supporting material, speeches, and press conferences. We hear that, and it will be very important for us to try to develop such materials. I said at the beginning that I think it's unusually important for us to try to speak in a unified way externally, not because I want to avoid dissent—and of course, everyone's views can be expressed—but as Governor Duke pointed out, because I think we have an educational mission here that needs to be taken seriously. So the more consistent we can be in our explanations and our discussion, the better it will be.

Those are just some things that I drew from the discussion. Again, you'll have an opportunity tomorrow, at least one go-round or maybe two go-rounds, to agree or disagree. Any comments? Final thoughts?

All right. The first question is, What time do we begin tomorrow? We are scheduled for 9:00 a.m. I think that would be adequate. Does everyone feel comfortable keeping their economic go-round remarks reasonably short? That's the tradeoff. If everyone is game for that, we'll start tomorrow morning at 9:00 and now adjourn the Board meeting—you didn't notice that—and also just remind you that there's a reception and dinner available for your convenience. There will be no business conducted at that dinner. Thank you. See you in the morning.

[Meeting recessed]

December 15, 2008—Morning Session

CHAIRMAN BERNANKE. Good morning, everybody. Let's start off today with the economic outlook. Dan, will you be taking the lead?

MR. COVITZ.³ Thank you. I will be using the packet of charts that starts with the staff presentation on financial markets. The charts for the other two presentations are included in this packet and follow mine. As shown in the top left panel of your first exhibit, long-term nominal Treasury yields posted their largest intermeeting decline in over twenty years. The primary explanation for this decline, outlined to the right, is that investors markedly revised down their economic outlook, leading both to a lower expected path of monetary policy and to continued flight to high-quality assets and away from securities with credit and liquidity risk. Yields also fell following Fed communications regarding alternative monetary policy tools, such as the purchase of long-term Treasury securities, agency debt, and mortgage-backed securities.

One measure of flight to quality, shown in the middle left panel, is the covariance of percent changes in stock prices and Treasury yields. When investors pull back from risk-taking, stock prices fall, and so do Treasury yields, resulting in a positive covariance between the two. When flight-to-quality effects are substantial, prices in both markets are volatile, making the covariance particularly large. In recent months, the covariance soared to well beyond its 2002 peak. Since the October FOMC, it has come down somewhat but remains extremely elevated, an indication of continued and substantial flight to quality. Another perspective on investor perceptions is provided by the equity risk premium, shown by the red shaded region in the panel to the right and measured as the difference between a trend year-ahead earnings-to-price ratio on S&P 500 stocks and a real long-run Treasury yield. This measure ballooned in mid-November as stock prices and Treasury yields fell and then narrowed a bit over the past month, as indicated by the plus signs. Even so, the risk premium remains extraordinarily wide.

Yield spreads on 10-year corporate bonds, shown in the bottom left panel, increased further over the intermeeting period. The spread on high-yield bonds (the red line) topped 1,600 basis points, and the spread on BBB-rated bonds (the black line) exceeded 600 basis points. The BBB spread is now comparable to average levels recorded on similarly rated bonds during the Great Depression. Changes in corporate bond spreads can be decomposed into changes in one-year forward spreads. As shown in the panel to the right, the 117 basis point intermeeting increase in the 10-year BBB spread reflects increases in forward spreads across the term structure, consistent with investor flight to quality and away from risk. In addition, the forward spreads ending in two years and five years increased more than the spread ending in 10 years, suggesting that investors have become more concerned about credit risk in

³ The materials used by Mr. Covitz, Ms. Aaronson, and Mr. Ahmed are attached to this transcript (appendix 3).

the medium term—that is, more concerned about the possibility of a protracted economic downturn.

Your next exhibit examines recent conditions in the commercial paper market. As shown in the top left panel, outstanding financial CP and ABCP (the black and red lines) dropped in September and October but since then have partially rebounded. In contrast, nonfinancial commercial paper outstanding (the blue line) has been relatively flat, although nonfinancial programs rated A2/P2 (not shown) have contracted roughly 40 percent since early September. The noticeable increases in financial CP and ABCP around the time of the last FOMC meeting reflect the implementation of the Federal Reserve's commercial paper funding facility (CPFF), which ramped up quickly and now holds roughly \$300 billion of highly rated commercial paper. The recent stability is also likely due to flows back into prime money market funds since early November (shown by the red bars above the zero line in the panel to the right). According to recent surveys of money-fund managers, prime funds have substantially increased their holdings of ABCP, reportedly reflecting the confidence provided by the asset-backed commercial paper money market mutual fund liquidity facility (AMLF), which stands ready to provide banking organizations with nonrecourse loans to fund purchases of highly rated ABCP from 2a-7 money funds.

Turning to pricing, the middle left panel shows that the spread on overnight A2/P2-rated nonfinancial CP (the blue line) trended down over the intermeeting period. About half of the reduction in A2/P2 spreads reflects a sample shift toward higher quality overnight issuers, while the other half of the spread reduction is due to improvements in pricing for a constant sample of issuers, suggesting a positive spillover from sectors of the market directly affected by the Fed liquidity programs. The overnight ABCP spread (the red line) also declined, on net, over the intermeeting period. In contrast, overnight yields on CP from highly rated nonfinancial and financial programs (not shown) have traded at levels close to the effective federal funds rate for the past several weeks.

To examine year-end pressures, the panel to the right shows the gap between thirty-day and overnight A2/P2 yields. This gap has been volatile but has trended up since late November, when the 30-day rate from our smoothed yield curve began to reflect trades that crossed year-end. Year-end funding pressures are explored further in the bottom left panel. The red bars show average percentages of paper that were placed over year-end as of mid-December from 2003 to 2007. The corresponding percentages for 2008 are denoted in blue. The first two bars indicate that, with respect to getting past year-end, programs rated above A2/P2 as a group are ahead of their average pace over the previous five years. In contrast, the second two bars show that lower-rated programs are behind. Overall, as outlined in the bullet points to the right, conditions in the commercial paper market appear to have been stabilized by the various policy interventions in this market. Even conditions in the nonfinancial A2/P2 sector, which falls outside the government liquidity and guarantee programs,

have improved, but the sector remains strained. Year-end pressures appear substantial for lower-rated programs.

The remainder of my briefing reviews funding flows in longer-term markets, starting with financing for nonfinancial businesses. As shown by the red portions of the bars in the top left panel of exhibit 3, investment-grade bond issuance has held up fairly well in recent months, while speculative-grade issuance, shown by the blue portions of the bars, has dwindled to nothing. This pace of financing does not appear to pose substantial near-term funding pressures for the nonfinancial corporate sector as a whole. As shown by the blue bars to the right, the volume of speculative-grade bonds due to mature is relatively light in 2009 and 2010 before it moves up somewhat in 2011. Moreover, the pace of investment-grade bonds that will mature in coming years, denoted by the red bars, is comparable to recent issuance levels. In addition, as shown in the middle left panel, liquid asset ratios for firms rated speculative- and investment-grade remain relatively high.

Perhaps more troubling for nonfinancial businesses is that funding from banks has slowed. As shown in the middle right panel, C&I loans expanded rapidly in September and October reportedly reflecting, to a substantial extent, a wave of drawdowns on existing lines of credit. However, the expansion of C&I loans halted in November. Equally striking, the plot in the bottom left panel shows that the change in commercial mortgage debt, based on flow of funds data, turned substantially negative in the third quarter, as the outstanding amounts both at banks and in securitizations fell. Overall, nonfinancial business borrowing, shown on the bottom right, has slowed sharply this year, and with financial conditions expected to remain tight and investment projected to be weak, the staff forecast calls for borrowing to remain very tepid through at least 2010.

Household credit is the subject of my final exhibit. Mortgage debt, shown by the blue line in the top left panel, is estimated to have contracted in the second and third quarters, in combination with the continued decline in house prices, shown by the thin black line. We have very little data for mortgage debt in the fourth quarter, but MBS issuance in October, shown to the right, was somewhat below the already low third-quarter level. Other types of household debt have also begun to contract. As shown in the middle left panel, revolving and nonrevolving consumer credit rose only a bit in the third quarter and then fell in October. While the slowdown in consumer credit likely reflects, in part, a reduction in demand, the secondary market for such credit has also become substantially impaired. As shown to the right, issuance of ABS backed by auto and credit card loans slowed markedly in the third quarter and was near zero in October and November, as quoted spreads on BBB and AAA ABS (not shown) soared. Results from the Michigan survey, shown in the bottom left panel, suggest that the contraction in household debt reflects both the reduced supply of credit and weak demand. As shown by the black line, an unprecedented share of households has pointed in recent months to tighter credit as the reason that it has not been a good time to purchase an automobile. At the same time, the percentage citing concerns about the economy, plotted in red, has increased to the top of its historical

range and remains the reason mentioned most often by respondents as a deterrent to purchasing an automobile. With financial markets under stress, consumer credit likely will need to be funded mainly on bank balance sheets in coming quarters. However, as shown in the panel to the right, banks' unused loan commitments for both households and businesses have declined substantially this year, as net new commitments have not kept up with drawdowns on existing lines—another indication of the tighter supply of bank credit. Stephanie will now continue with our presentation.

MS. AARONSON. I will be referring to the exhibits that follow the green nonfinancial cover page. The indicators that we have received since the last FOMC meeting suggest that real activity has been contracting rapidly, and as Dan has described, financial conditions have continued to deteriorate. Starting with the labor market, private payroll employment (the inset box in the top panel) plunged 540,000 in November, and the figures for September and October were revised down noticeably. All told, November's drop brought the three-month decline in private employment (the black line in the top panel) to an annual rate of 4.2 percent—a much steeper pace of job loss than we were expecting in the previous Greenbook. The retrenchment in November was pervasive across both goods- and service-producing industries. As shown in the middle left panel, initial claims for unemployment insurance have continued their steep climb since the November survey week, consistent with a further large drop in employment in December.

Meanwhile, in the household sector, nominal sales at the retail control grouping of stores (the inset box in the middle right panel) declined 1.5 percent in November, which given a large energy-driven price decline, translates into an increase in real spending for the month. We had been expecting real outlays in this category to fall further. As shown by the rightmost blue bar, with the latest retail sales number, we now think that real PCE on goods other than motor vehicles is on track to fall at an annual rate of 5¼ percent, not as bad as the 9¼ percent decline we projected in the Greenbook but still very weak. Near-term indicators of consumer spending point to further weakness in the coming months. Notably, the Reuters/University of Michigan survey index of consumer sentiment, plotted in the bottom left panel, remained at recessionary low levels in the first part of December. Sales of light vehicles (the bottom right panel), which slumped in October, fell further in November, to an annual rate of 10.1 million units, a much slower pace than we had anticipated. Anecdotal reports suggest that sales are soft again this month. Given the weak fundamentals for demand and tight credit, we project vehicle sales to remain depressed over the next several months.

As shown in the top left panel of exhibit 2, residential construction has continued to slide. Single family starts fell further, to 441,000 units—somewhat lower than our expectations—and permits continued to move down last month. In the business sector, new orders for nondefense capital goods excluding aircraft (the red line in the top right panel) dropped for a third straight month in October; and with orders falling below shipments for a second consecutive month, the backlog of unfilled orders

shrank further. Yesterday, the Board released data on industrial production in November. Total IP (the inset box in the middle panel) fell 0.6 percent in November. Excluding the effects of rebounds from the Boeing strike and September hurricanes, IP moved down 1.6 percent last month. The black line in the panel plots the three-month diffusion index of manufacturing IP, a measure reflecting the net fraction of industries that experienced an increase in production. As you can see, over the past few months that number has plummeted to 21, indicating that the contraction in industrial activity has been remarkably widespread. Overall, the incoming data led us to steepen significantly the contraction in real GDP that we are forecasting for the current quarter and the first quarter of next year. In these two quarters, we expect output to decline at an average annual rate of nearly 5 percent. In both quarters, a significant chunk of the revisions has come in private domestic final purchases (lines 3 and 4 of the table). In addition, the available indicators suggest that firms are acting aggressively to limit unwanted increases in their inventories. As shown in line 5, firms have been drawing down inventories at a moderate pace in the second half, and we expect even faster liquidation next quarter in response to the sizable contraction under way in final sales.

Your next exhibit focuses on the medium-term outlook, starting with some of the key background factors that have influenced our thinking about the outlook since the October Greenbook. On the downside, as noted earlier, financial conditions have deteriorated further in recent weeks. As can be seen in the top left panel, the index of financial stress that we track continued to rise sharply. One important component of that increase in stress has been the further widening of corporate bond spreads for investment-grade issues (shown by the gray shaded area in the top right panel). In addition, equity prices are lower than we projected, taking an even bigger bite out of household resources. Meanwhile, in the external sector, the path of the dollar (shown in the middle right panel) is somewhat stronger than in our October forecast, and the outlook for foreign economic activity has weakened further. Shaghil Ahmed will have more to say about these developments shortly.

As you know from reading Part 1 of the Greenbook, in light of the intensification of recessionary forces that emerged over the intermeeting period, we based this forecast on the assumption of a lower level of the federal funds rate than in our previous projection (not shown). In addition, we now assume that \$500 billion in new fiscal stimulus actions will be enacted early next year, on top of the roughly \$165 billion in the stimulus package enacted earlier this year. These assumed fiscal actions include permanent tax cuts for most individuals, higher transfer payments, grants to state and local governments, and support for housing. As shown in the bottom left panel, these new federal programs boost the impetus to GDP growth from fiscal policy considerably relative to our assumptions in the October Greenbook. Two other factors also provide more support to real activity in this forecast. First, mortgage rates (the bottom right panel) have fallen about ½ percentage point since the October Greenbook. With the spread over the 10-year Treasury yield still quite wide, we project that mortgage rates will fall further over the projection period. Second, oil prices (not shown) have fallen more in recent weeks than we anticipated in the

October Greenbook; the lagged effects of these declines provide a greater lift to spending in 2009.

The top left panel of your next exhibit summarizes our medium-term projection. On balance, we expect that the factors restraining activity will far outweigh the supportive influences, with real GDP falling at an annual rate of 3 percent in the first half of next year. The decline is led by a steep drop in business fixed investment (lines 5 and 6). In the second half of the year, real activity begins a slow recovery as PCE (line 3) picks up and residential investment (line 4) begins to stabilize. In 2010, the recovery is projected to gain momentum as household spending strengthens further and business purchases of equipment and software begin to rise. As is typical, the recovery in nonresidential investment is expected to lag.

By postwar standards, we are projecting a deep, prolonged recession and a very sluggish recovery. The middle left panel provides some perspective. The black line shows the level of real GDP, indexed to its own peak, in the second quarter of 2008. By way of comparison, the red and blue lines show the paths of real GDP during the recessions that started in November 1973 and July 1981, respectively. As can be seen, the projected contraction in real GDP in the current episode is about in line with that experienced during those two earlier “big” recessions, but our projected recovery is noticeably more prolonged. The box to the right summarizes some of the important factors that impede the projected recovery. First, we think that the economy will continue to face significant (albeit moderating) financial headwinds over the next two years, with elevated risk premiums, restrictive lending conditions, and general uncertainty restraining real activity for some time to come. Second, tight monetary policy did not help generate the current recession, and we don’t see monetary ease as likely to generate as much impetus to recovery. In fact, as the third bullet point notes, the federal funds rate is already close to the zero lower bound, greatly limiting the scope for conventional monetary policy to provide further stimulus to real activity.

The importance of this last factor is illustrated by the bottom set of panels. The exercise is similar to the simulations presented in the Bluebook, except that this one allows the federal funds rate to turn negative. The green line in the bottom left panel shows the simulated federal funds rate path. If unconstrained, the optimal funds rate would fall below zero in early 2009 and drop to negative 5½ percent in the third quarter of 2010. In this scenario, the unemployment rate, shown in the middle panel, peaks at 7¾ percent in 2009—about ½ percentage point lower and a year earlier than in the Greenbook projection. The four-quarter change in core PCE prices, shown at the right, bottoms out at just over 1¼ percent in mid-2010 and then turns up, in contrast with the continued deceleration in the extended staff forecast. In the context of the zero bound, achieving an outcome for real activity and inflation consistent with the unconstrained optimal control exercise would likely require some combination of greater fiscal stimulus and nontraditional monetary actions than we have built into the current projection.

Your final exhibit summarizes the outlook for inflation. As shown in line 1 of the top left panel, we now project that total PCE price inflation will slow to about 1 percent in 2010, while the core rate (line 7) falls to 0.8 percent. The decline in inflation reflects a combination of widening slack in resource utilization, reduced energy and materials prices, and a net decline in core import prices; these factors also push down long-run inflation expectations. I should note that we received data on the November CPI this morning. The total CPI fell 1.7 percent, driven by a sharp drop in energy prices. The core CPI was unchanged last month. We had been expecting an increase of 0.1 percent. One measure of resource utilization, the unemployment rate, is projected to reach $8\frac{1}{4}$ percent in 2010. In our forecast, the wide unemployment rate gap puts substantial downward pressure on costs and prices. However, as suggested in the middle left panel, we may be overstating the downward pressure on inflation caused by slack. In particular, the current cycle has been associated with especially large employment declines in several industries, notably construction and finance. If these declines are leading to an unusual amount of employment reallocation across industries, structural unemployment would increase, which in turn would raise the NAIRU.

The remaining panels present some analysis of the issue using a measure of sectoral reallocation and a set of Beveridge curves. The middle right panel depicts an index of sectoral employment reallocation across industries. The index is based on the growth rates of employment in 15 industries relative to the growth rate of total employment, adjusted at the industry level for typical cyclical movements in employment shares and is similar in spirit to a measure constructed at the Chicago Fed. As can be seen, even after removing the typical cyclical behavior, increases in sectoral reallocation often occur around recessions, which is not surprising since each business cycle produces a unique set of imbalances. Indeed, the amount of sectoral reallocation indicated by this measure has been rising over the past year or so. However, to date it remains low relative to previous spikes in reallocation. Another way to determine whether there has been a rise in structural unemployment is through the so-called Beveridge curve, two versions of which are shown in the bottom panels. The version at the bottom left plots the unemployment rate, adjusted for the Emergency Unemployment Compensation program, on the horizontal axis against the job openings rate, measured by the Job Openings and Labor Turnover Survey (JOLTS), on the vertical axis. The bottom right panel shows a Beveridge curve calculated using the Help-Wanted Index as the measure of job openings. If there has been a significant increase in structural unemployment, then one would expect that for a given level of the job openings rate, the unemployment rate would be unusually high—that is, to the right of the plotted Beveridge curve. This might occur, for example, if many of the job openings were for nurses but a disproportionate number of the unemployed were bond traders, who are not qualified for the job openings. [Laughter]

So, what do these Beveridge curves say about structural unemployment? The blue and red circles in the two panels show the data points for the third quarter of 2008 and for the most recent months available. The latest readings from the JOLTS

do stand to the right of the estimated curve, while the latest readings from the Help-Wanted Index are closely in line with past experience. At this point we are reluctant to draw strong conclusions from just a couple of observations from either measure, and we read the evidence as consistent with at most a small increase in structural unemployment thus far. Of course, these data do not tell us what will happen in the coming quarters, when we anticipate further job losses in financial services and continued weakness in construction and manufacturing. Shaghil will continue our presentation.

MR. AHMED. I will be referring to the exhibits that follow the blue International Outlook cover page. Financial markets in foreign economies remain stressed but have not suffered further pronounced deterioration since the October FOMC meeting. As shown at the top of your first exhibit, government bond yields in major industrial economies have dropped, likely reflecting further expected monetary policy easing, lower inflation expectations, and a firming of the belief that economic recoveries are not around the corner. Equity markets, shown in the middle left, have changed only moderately, on net, since your last meeting, compared with large declines in previous months. The emerging-market aggregate CDS spread, shown in the middle, has been volatile but remains elevated. As shown to the right, gross private capital inflows to emerging markets through debt and syndicated loans have continued to trend downward.

The exchange value of the dollar against the major foreign currencies (the black line in the bottom left panel) has moved down a little since the last FOMC meeting. Some bilateral exchange rate movements were substantial, however, with the dollar appreciating markedly against the pound and depreciating against the yen. As shown to the right, the dollar has appreciated somewhat against the currencies of our other important trading partners, driven by movements in the Mexican peso and the Brazilian *real*. Earlier this month, the dollar registered one of its biggest daily increases against the Chinese renminbi in recent years, although this shows up only as a tiny blip in the chart. We believe that Chinese authorities will allow the renminbi to depreciate somewhat in the coming months; NDF (nondeliverable forward) contracts also imply an expected depreciation of the renminbi against the dollar over the next year or so.

Incoming evidence on economic activity abroad continues to be grim. As shown in line 1 of the table in exhibit 2, we now estimate that foreign economic growth was below 1 percent in the third quarter. Although growth in Canada (line 7) and Mexico (line 12) surprised on the upside, readings elsewhere were generally weaker than expected, with real GDP contracting in the United Kingdom, the euro area, and Japan (lines 4 through 6). As shown by the red bars in the middle left panel, net exports made significant negative contributions to growth in these three economies. Domestic demand (the blue bars) was also soft. Growth in emerging Asia (line 9) was barely positive in the third quarter, reflecting subdued growth in China (line 10) and substantial contractions in most of the newly industrialized economies (shown in the middle right).

With data from the current quarter pointing to greater weakness than we expected and a substantially more pessimistic U.S. outlook, we have further slashed our forecast for total foreign growth to minus 1½ percent in the current quarter and minus 1¼ percent in the next, before a recovery to a positive but still relatively weak average pace of about 1 percent through the remainder of next year. The widespread nature of the economic slowdown in large part seems to reflect trade linkages. As depicted at the bottom, in recent years U.S. economic growth (the black line) and the growth of total real exports of our major trading partners (the green line) have been significantly related. Although foreign exports are affected by many factors in addition to U.S. GDP, the relationship shown and the gloomy outlook for U.S. economic activity through next year paint a bleak near-term picture for foreign exports.

Your next exhibit focuses on the advanced foreign economies in more detail. Data from Europe point to a sharp slowing in the current quarter. The timeliest indicators are PMIs (purchasing managers' indexes), which, as shown in the top left panel, have plummeted in recent months in both the United Kingdom and the euro area, reaching levels well below those observed during the 2001 downturn. As depicted to the right, in Japan, exports (the black line) and industrial production (the blue line) have contracted during the current quarter, and conditions in the labor market have deteriorated further, as manifested by the decline in the ratio of job openings to applicants (the red line). Indicators from the current quarter in Canada, shown in the middle left, point to weakness in real exports and a continued drop in housing starts. Authorities in advanced foreign economies are attempting to shore up aggregate demand through fiscal stimulus. As listed in the middle right panel, many countries have announced stimulus packages, including Germany, France, and the United Kingdom. We estimate that the actual stimulative content of the packages announced so far is likely to be small but expect that additional measures will be introduced next year. The total fiscal stimulus that we are assuming should boost growth in the advanced foreign economies by ¼ to ½ percentage point at an annual rate from mid-2009 through 2010. The possibility of bigger fiscal initiatives is an upside risk to our outlook for foreign growth.

Many of the foreign central banks have become more aggressive in easing monetary policy, as can be seen at the bottom left. Since the last FOMC meeting, the Bank of England and the ECB have slashed policy rates by a total of 250 basis points and 125 basis points, respectively, and the Bank of Canada and the Bank of Japan have lowered rates by smaller amounts. More rate cuts are expected in all of these economies, which could bring rates in Japan back down to the zero lower bound. As shown on the bottom right, inflation in the advanced foreign economies is now expected to recede at a faster rate than previously projected, reflecting sharp declines in commodity prices as well as diminished resource utilization.

Turning to emerging-market economies, as shown in the top left panel of exhibit 4, the recent behavior of Chinese industrial production, total exports, and

imports from Asia is now reminiscent of developments during the year 2001. The plunge in imports from Asia casts doubt on the notion that China has become an independent engine of growth in the region. As depicted to the right, Korean exports and aggregate industrial production in Korea, Singapore, and Taiwan are plummeting. In Mexico, third-quarter output was bolstered by expansion in the agricultural sector, but as shown in the middle left, exports have moved down sharply, and consumer confidence has dropped below 2001-02 levels. In Brazil, too, shown on the right, there has been some softening in exports (the black line), which had been supported by high commodity prices, although industrial production (the blue line) has held up a bit better.

With prospects for exports in the doldrums, policy stimulus has become all the more important to the outlook for emerging-market economies. As noted in the bottom left, monetary easing has continued, with interest rate cuts in many emerging Asian economies, including China and Korea. China, Malaysia, and Brazil have also lowered bank reserve requirements. In addition, fiscal stimulus packages have been announced in a number of economies, most notably China. China's 16 percent of GDP spending package considerably overstates the ultimate effects on growth as it includes some previously announced projects, its implementation may take longer than announced, and the federal government is slated to pay for only 30 percent. Discounting the headline number, we estimate that the Chinese package could boost growth 1 to 1½ percentage points per year. Other countries, such as Korea and Mexico, have introduced smaller but still sizable packages, which we expect will give some impetus to growth.

In sum, our near-term forecast calls for total foreign growth to be the weakest since 1982, and as sketched out in our alternative simulation in the Greenbook, there would appear to be downside risks even to this forecast.

Your final exhibit focuses on the U.S. trade outlook. Weak global demand has contributed to falling prices for food and metals, which have led a sharp decline in nonfuel commodity prices (the blue line in the top left panel). Oil prices (the black line) also have continued to move down rapidly, but futures prices project some recovery ahead. The fall in commodity prices has exerted downward pressure on U.S. trade prices (shown in the top middle panel); both core import prices and core export prices dropped markedly in October and November, which for import prices were the largest monthly declines in the fourteen-year history of the index. A sense of the extent of weakness in global demand can also be seen in shipping rates (shown to the right), which have taken a nosedive.

As in the 2001 recession, U.S. real exports and imports of goods (shown in the middle left) are now trending down. Imports (the red line) have been moving down all year. The falloff in exports (the black line) is a more recent development and, in part, reflects hurricane-related disruptions and the strike at Boeing. As shown in the table, growth of both real exports of goods and services (line 1) and real imports (line 3) was noticeably weaker in the third quarter than we had previously estimated.

For the current quarter, we see both real exports and real imports contracting sharply, reflecting the slowdown in global demand. Looking ahead, our projections for a stronger broad real dollar (shown in the middle right) along with our weaker outlook for foreign growth have led us to revise down sharply our forecasts for exports, especially in 2009. In the near term, our projections for imports have also been marked down considerably. As shown in line 5, the contribution of net exports to U.S. growth is expected to swing slightly negative in the current quarter, following large positive contributions earlier this year. The current quarter's contribution is considerably weaker than projected in both the October and the December Greenbooks, as last week's export data surprised us on the downside. Next quarter, with a substantially greater step-down in imports than in exports, we expect the contribution of net exports to U.S. growth to jump back up, before returning to negative territory for the remainder of the forecast period. That concludes our presentation.

CHAIRMAN BERNANKE. Thank you. Remind me what your anticipation of the current account deficit is for next year.

MR. AHMED. I think the deficit goes down to about 3 percent.

MR. SHEETS. Yes. We see the current account deficit, as Shaghil said, bouncing between 3 and 3½ percent of GDP through 2009 and 2010. In the near term, you have much weaker foreign growth and a stronger dollar, but that is offset by the lower level of oil prices, so that keeps the current account deficit around the 3 to 3½ percent range.

CHAIRMAN BERNANKE. Okay. Thank you. Questions for our colleagues? President Bullard.

MR. BULLARD. I was just looking at the policy rates abroad here—this is the picture in exhibit 3, I guess. It shows the ECB, the Bank of Canada, and the Bank of England all leveling out before they get to zero. Do you have a sense of what the plans are there, or what they are saying about that, or are we going to see a sort of global move to zero? What is your sense of that?

MR. AHMED. Looking at the policy that is going forward, first of all, we are forecasting here what we think they will do, not necessarily what we think they should do. Given their past

behavior, we think that they will be ratcheting up the rates the first chance they get. The timing is a bit different, but the rates are broadly in line with market participants' expectations. In the case of the euro area, for example, at the end we are even a little lower than the market participants are expecting.

MR. BULLARD. So this is from surveys of market participants?

MR. AHMED. No. This is our projection.

MR. BULLARD. Right. But you are getting the information from surveys and other things.

MR. AHMED. It is informed by surveys, yes.

MR. SHEETS. I would add that I think the ECB in particular has a real aversion to policy activism. In fact, Trichet was on the wires this morning indicating that they are not really comfortable with where they are right now. They may pause in January, and I think it really would take a more severe outcome for activity in the euro area than what we have incorporated in our forecast to get the ECB down to zero. Nevertheless, that is a risk. I would say that there are downside risks here. I would put a higher probability on seeing the Bank of England or the Bank of Canada go to zero. But as Shaghil emphasized, here we are basically just writing down what we think they are going to do, and we generally follow the futures markets fairly closely. But it certainly would be a surprise to me if, over the next six months, we saw other major central banks in the proximity of zero.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. Just a comment on the projections for China—these numbers seem to be less than what they are saying officially. Am I correct?

MR. AHMED. Yes. These numbers are less.

MR. FISHER. That sort of jibes with the reports that I am hearing back from the CEOs doing business in China. In fact, the cutback has been much more dramatic than they expected. Semiconductor firms, for example, have put ship-stop orders, meaning they are stopping for lack of payment, and the retailers are seeing a noticeable drop in attendance at their stores. But I think that our numbers are more fitting.

MR. AHMED. I think the latest official numbers don't incorporate the November data, which just came out—actually, they came out yesterday—and some trade data since the Greenbook.

MR. FISHER. But you are saying that we do expect further currency depreciation.

MR. AHMED. In the near term, yes, through the first half of next year.

MR. FISHER. I have three questions, Mr. Chairman. One on the commercial paper market. What is the spread between A1/P1 and A2/P2 right now?

MR. DUDLEY. For term, it is a huge spread, probably 300 basis points or so, but overnight it is much smaller.

MR. COVITZ. As you go out the term, it is even more.

MR. FISHER. So the incentive for A1/P1 borrowers is to do everything they can to keep that status, obviously. It is a much more attractive proposition.

MR. DUDLEY. Yes.

MR. FISHER. Which leads to more-conservative financial management and business management. You do everything you can not to become an A2/P2 borrower, to slip off the A1/P1 ladder.

MR. DUDLEY. Historically BBB was the sweet spot of the corporate capital structure, and that was associated with A2/P2 commercial paper borrowing, which people thought was safe. It turned out not to be quite as attractive as they had thought.

MR COVITZ. I think over history this isn't the only time when A2/P2s have come under stress. Whenever there were disruptions in the market—for example, after the California utilities defaulted in the early part of the decade—A2/P2 outstandings plummeted, and A2/P2 spreads rose, though not nearly to this magnitude. This is truly extraordinary. But that is a portion of the market that is under stress because this market in general tends to be very, very skittish. At the first sign of trouble, there is quantity rationing. I didn't show the outstandings of the A2/P2s, but they have gone down—as I think I mentioned—40 percent in the last couple of months. So quantity rationing is already taking place, and they are having trouble getting over year-end.

MR. FISHER. I guess my point is that the way in which it works is that it gives people incentives to be even more conservative in the financial management of their operations. On household credit, do we have a sense of how much shift is taking place between credit card usage and debit card usage? Under these conditions of duress, has that been a noticeable change, or is it just marginal?

MR. COVITZ. I don't know those data.

MR. FISHER. It might be something to look at next time. Finally, on the inflation table in exhibit 5—and you have talked about the numbers that were released this morning—do you see additional monthly deflationary numbers on the headline CPI, or could you see this happening for a prolonged period, say for a quarter? We have a table here for 2008, 2009, and 2010. On the top line, the PCE price index, do we envision monthly or perhaps quarterly extensions of deflationary headline numbers?

MR. STOCKTON. No. We have another two months of small declines anticipated as the energy prices continue to pass through and then, beyond that, some small increases. So we don't see this as an extended period of negative headline.

MR. FISHER. So December/January?

MR. STOCKTON. December/January—exactly.

MR. FISHER. And what is the order of magnitude?

MR. STOCKTON. We are looking for about minus 0.5 percent in December and minus 0.1 in January. We are also not expecting the core figures to remain as low as they have been running for the past month or two. We do think that they have been held down by some very significant declines in air fares. That could continue for another month or two—again, as the energy price pass-through works. They have also been held down by some very large declines in lodging away from home, which is a volatile series, and it is not likely to sustain this level. Despite the fact that we don't see them as low as they have been the past two months—that is, declining to flat—we are expecting some fairly small increases going forward. We have core inflation heading down, and all of these exhibits have shown a significant reduction in price pressures coming from import prices, from energy prices, and from broader commodity prices as well as the increase in slack that, as Stephanie pointed out, is keeping a real lid on labor costs.

MR. FISHER. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. Our staff does such a fine job. Maybe my hearing is going, but I missed the names of our staff presenters. Can we get them introduced to us?

MS. AARONSON. I'm Stephanie Aaronson.

MR. COVITZ. I'm Dan Covitz.

MR. AHMED. Shaghil Ahmed.

MR. LACKER. Great. Thank you very much. I have a question for Stephanie. You know, they do such a great job.

CHAIRMAN BERNANKE. Jeff, are you feeling okay? [Laughter]

MR. STOCKTON. We apologize for our lack of manners. [Laughter]

MR. LACKER. Maybe it is a southern thing, I don't know. [Laughter] The sectoral reallocation is really intriguing, and it is something that I have been curious about in this whole episode. The measure is not one I am familiar with. It is one for which you count each industry as a unit, right?

MS. AARONSON. Exactly. It is a Lilien type of dispersion index. This isn't actually how we calculate it, but it is essentially how the industry's share of employment changes relative to total employment. So it is the growth in that industry's employment relative to total employment. What we do is that we know that over the business cycle each industry has a typical pattern—durables employment goes down a lot during recessions whereas, say, health care doesn't go down that much. Those types of changes aren't typically associated with sectoral reallocation. That is, we don't really think of those things that are typical over the cycle as being associated with an increase in the NAIRU. We want to take those out, so we take out the typical cyclical movements, such as manufacturing always goes down in a recession and finance is acyclical.

MR. LACKER. And housing always goes down in a recession.

MR. AARONSON. Housing and construction always go down, so we take that out, and then we say, okay, so now there are these atypical movements that are greater than we usually

see. That is what we would consider the sectoral reallocation. That is what is left over. You can see, as I mentioned in the briefing, that actually during recessions there is a lot of sectoral reallocation, even once you take out the usual declines in employment that differ across industries. That is because each recession has different causes. Different industries have grown a lot during the boom—like finance recently or, say, communications during the late 1990s—and those sectors are going to shrink more than usual during the recessions and get back to more of an equilibrium state. That is what is going on here.

MR. LACKER. Yes. So it is sort of a bummer that these go up in the recession if you are trying to measure what is happening to the NAIRU. But I always thought of the phrase “sectoral reallocation” as having to do with the theories of the business cycle in which cyclical downturns are caused by an unexpected decline in a given industry that causes resources to shift out of that industry and that it takes time for them to be absorbed into some other industry. From that point of view—if you are trying to measure that component as opposed to policy-induced, widespread declines in activity—I would think you would want not to take out the cyclical part. I am thinking about housing. We devoted a lot of resources to housing in 2005, much less now. Those resources thrown on the market, in fact, are the proximal cause of the initial downturn in employment growth. A lot of ancillary industries are related, so I would think that, if we didn’t take out the usual housing cyclical thing, which is really sharp in the early periods, you would see a bigger rise here.

MS. AARONSON. I have looked at that, and actually, it doesn’t make that much of a difference. Construction goes down in every recession, and so by that measure sectoral reallocation is higher in every recession. I mean, construction is contributing more to sectoral reallocation here than in previous recessions because the declines have been larger. So that fact

is captured. The fact that construction is having a larger-than-typical decline is precisely what is captured here. But even if you said, okay, well, maybe in every recession industries shrink and that is associated with some sectoral reallocation, the measure actually looks very similar—not just across the current episode but across all the episodes.

MR. LACKER. Yes, yes. I guess it is also related to how you think about the NAIRU. To some extent, if unemployment goes up in recessions, then what unemployment is supposed to be goes up in recessions as well, it seems. I have a question about the first exhibit. It is the first set of exhibits. It is also about commercial paper. Would you folks encourage us to view the improvement that has taken place in the A2/P2 market as a measure of how the A1/P1 market might have improved had we not intervened? It is sort of a baseline, right? It is like the control group.

MR. COVITZ. I think it is very difficult to interpret it that way because the intervention did happen and the bulk of the improvements happened subsequent to the intervention.

MR. LACKER. What sort of spillovers from our intervention in A1/P1 do we expect perhaps to have influenced or to have led to an improvement in A2/P2?

MR. COVITZ. I think that the decline in the A2/P2 overnight suggests improvement. But there is some concern about sample selection, and you have to worry about that at the same time. It could be just that you are getting higher-quality issuers in the A2/P2 sector. But it turns out you're not. It turns out that it explains only about half of that decline.

MR. DUDLEY. You know, it also may have helped the money market fund industry to keep its money knowing that there was a facility outstanding that could provide liquidity for that sector because we did see inflows back into the money market mutual funds.

MR. LACKER. So their willingness to buy A2/P2 may have been affected by another program, not the CP one. You are saying the money market fund program—

MR. DUDLEY. They provided more stability to the system as a whole.

MR. ROSENGREN. To the prime money funds.

MR. LACKER. So we can't separate the individual programs.

MR. ROSENGREN. There is a second factor. There has been discussion of extending the A1/P1 program to A2/P2, which the industry is certainly aware of, but I would highlight with the A2/P2 that a lot of the mutual funds do not want to hold it over the end of the year. Most of the A2/P2 borrowers are having trouble rolling over year-end. There is a real risk that that market will have to rely on backup lines of credit, and it's not clear whether the A2/P2 market comes back after the New Year, if that happens, or in what capacity it does. So I think the real test will be to look at this chart in January or February.

MR. LACKER. Well, you wouldn't expect speculation about imminent extension of the program to A2/P2 to support the overnight rate for A2/P2 unless they expect it to be implemented overnight. A question about strains: To what extent are we able to disentangle whether the market is strained or the issuers are strained?

MR. COVITZ. In the CP market itself?

MR. DUDLEY. You can look at credit ratings, for example, or what's happening to their profitability. It is highly likely that the strains in the CP market are more dramatic than any change in the underlying financial condition of the A2/P2 borrowers.

MR. COVITZ. You could think about what the default risk is, say, for the corporate sector. You could break down a pretty simple model of defaults conditional upon our outlook for the economy, and that would have the default rate rising.

MR. LACKER. But you don't observe investors' expected defaults themselves.

MR. COVITZ. You don't, but you can take a guess at what you think that is, and it is higher. It is not at Great Depression levels under any of the models I've looked at. It's not even at the levels of default rates in 2002.

MR. LACKER. So you are saying that this paper is underpriced. Is that how you measure strains? I am always curious as to what strains mean.

MR. COVITZ. The way that I'm referring to it is just that risk premiums are really, really large. I'm not saying that they are necessarily irrational. I am just saying that they are really, really large.

MR. LACKER. Thanks. Great job.

CHAIRMAN BERNANKE. President Evans.

MR. EVANS. Thank you, Mr. Chairman. I have a question or observation, which is of the optimistic variety although it presents sort of a challenge. In the medium-term outlook in exhibit 4, if you focus on 2010, the Greenbook projection has real GDP growing at 2.4 percent. We're beginning to come out of this. The unemployment rate is peaking. If you could implement the optimal control federal funds rate, it would be bottoming out. Maybe that would mean whatever quantitative easing credit programs we would be doing would be at their peak and maybe would be coming off. But it is also the time that the inflation rate is low and continuing to fall. This is going to be a tension for us as we start thinking about, and we are about to engage in mentioning, the possibility that inflation could be—well, whatever—lower than ideal. What would you guess the risks might be around that inflation forecast? How hard is it going to be for us not to continue to worry about inflation being low or to communicate that inflation is going to continue to be low even though things are improving? Just any kind of advice would be helpful.

MR. STOCKTON. My guess is that, if our baseline forecast evolves in the way we are expecting here, you are still going to be worried about the downside risk to inflation even if, in fact, we were in the process of bottoming out because there will still be a very substantial output gap. On the commodity price side, things are fairly stable, and at least in our forecast, inflation expectations are probably drifting down some. On the other hand, there are upside risks to that inflation forecast as well. I do actually think that our baseline forecast, on the assumptions that we have had to make in constructing it, is reasonably well balanced because another possibility is, in contrast to the gradual downtrend that we're expecting in inflation expectations, that inflation expectations will be stickier, you will be able to convey a greater sense that you wouldn't want inflation over the longer haul moving down below 1 percent, we won't get as much disinflation into inflation expectations or into labor costs, and you'll get greater stability there than we're expecting. So to my mind, looking ahead, monitoring how those inflation expectations evolve in the context of an economy where things are weakening will be very important.

MR. EVANS. Thanks.

CHAIRMAN BERNANKE. President Bullard.

MR. BULLARD. On the same topic—the medium-term outlook and, in particular, the optimal control exercise at the bottom, which is showing us how we're constrained—is there some quantitative policy that we could undertake that would get us to the green lines here, maybe by creating more inflation than we would think desirable in the long run?

MR. STOCKTON. The point of constructing this optimal control is to say that, gee, if you weren't constrained, here is how we thought optimal behavior—the sort of optimal outcome—would be, given the shocks. You're asking me whether or not there are quantitative policies that you could put in place. I was actually hoping that you folks were going to be able to tell me.

[Laughter] You face a challenge in constructing policy, but we have collectively a challenge in understanding how whatever policies you implement are actually going to show through into our longer-term outlook. The point here is that, in the absence of some nonconventional monetary policy actions or substantial fiscal stimulus, we see a very extended period of weak activity, high output gap, and declining inflation.

MR. BULLARD. Sometimes what people do is they say, okay, suppose you could just control inflation directly, which we know is hard, but suppose then you just trace out an optimal path for inflation that would get you to the green line.

MR. STOCKTON. Obviously, if you could levitate inflation expectations, that would be one thing. The other thing is that note 21 in the package we sent you included some exercises that suggested, if you took actions that could significantly reduce the long-term Treasury rate and compress mortgage spreads, there would be ways in which you'd be able to provide more stimulus for the economy. Now, all those things we suggested, at least the ones that we showed in that note, weren't sufficient to get you back to equilibrium quickly. But there are policies, obviously, that we think will be able to provide some stimulus.

MR. BULLARD. This optimal control exercise then would have an objective that would be a quadratic objective in some real output or unemployment—

MS. AARONSON. Minimizing the unemployment rate and the deviations of inflation from its target.

MR. BULLARD. That's saying that you wouldn't be willing to suspend your inflation target for a while to improve things on the real side. I think that might be helpful as well because then the Committee could think about what those tradeoffs are. In ordinary times, you might have a certain weight on the two objectives, but you might shift that in other situations.

MS. AARONSON. If I can also just put this in a little more context—by the end of 2010, the gap on the unemployment rate between the baseline and the optimal control is about 1 percentage point. So if you use a simple rule of thumb from an Okun's law type of model, that would be a couple of percentage points on the level of GDP. GDP would have to grow a couple of percentage points faster over 2009 and 2010 to close that 1 percentage point gap in the unemployment rate between the baseline and the optimal control.

CHAIRMAN BERNANKE. President Lockhart.

MR. LOCKHART. Question for Nathan. In an earlier meeting, if I recall correctly, there was mention of the European banks' exposure to emerging-market sovereign debt—a concern about the trend lines in that sovereign debt. Are you tracking that in any sense? My concern is that there could be another full-blown debt crisis of some kind coming. It is not covered in these charts, but do you have a sense of default risk on the part of emerging-market sovereigns?

MR. SHEETS. The European banks are particularly exposed, much more so than U.S. banks or Japanese banks. A big chunk of that exposure is to central and eastern Europe, and as you suggest, we see significant risks to the European banks as a result of that exposure. What makes it even a little dicier is that exposure is concentrated in several countries, particularly Sweden, Austria, and to a slightly lesser extent Italy. Recently there has been significant economic turmoil in Hungary and Ukraine. The Fund has stepped in, and the EU has helped as well with large financing packages. The latest one we're watching very closely is the situation in Latvia, where the exchange rate is significantly overvalued. The external position looks very, very dicey. The Fund is in there negotiating a program. There has been a lot of back and forth about what should be done with the exchange rate regime. The banking system also looks vulnerable—so what should be done with the banks? It is not exactly clear how all that is going to be resolved. My personal feeling is that, given

the risks—and the Europeans recognize the extent of the risks—if Latvia goes, it could blow out the rest of the Baltics and then sweep around into Central and Eastern Europe and then feed back into Western Europe. So I see the risks there as being of first order for the Europeans.

Given that recognition, I think that the EU and major European governments are going to do what's necessary to make sure that the situation in Latvia stabilizes at least for a while. The end game over the next several years is very much an open issue for a lot of these economies that were in ERM-II and evolving into hoping to adopt the euro. I think that there are potentially some very pronounced vulnerabilities and some painful adjustment that will need to happen in some of those Central and Eastern European countries. So absolutely that is a major risk. It's one we're watching as closely as we can.

MR. FISHER. Nathan, you would probably have been arrested for treason if you had said that in Latvia—literally. The economist who gives a negative forecast is arrested for treason. Stay here. [Laughter]

CHAIRMAN BERNANKE. Other questions? If not, let's start our go-round with First Vice President Cumming.

MS. CUMMING. Thank you. I thought I would make a couple of points that underscore the substantial increase in the downside risks that we incorporated into the forecast that you all received on Friday. That change was really encouraged by our economic advisory panel, which suggested that the downside risks were much larger than we were estimating at the end of November.

First, we have been meeting, as of course all of you do, with small business people. Bill Dudley put a panel of investors together, too, and I have a couple observations out of that and our discussions with community bankers. One is that the cutbacks in financing are very real. There is a

lot of evidence that the banks are going in and looking at lines and cutting them back to both investors and the small-business community. The small business community is also on the receiving end of much tighter financial management at their larger customers—that is, the people they're supplying—as those firms are not paying their bills or are extending the terms on which they pay their bills to a much greater number of days. That has induced a hunkering-down mentality on the part of the small business owners. The other sobering thing they pointed out to us—and this is very much in line with Governor Duke's comments about the community banks yesterday; we hear the same thing—is that small businesses and the community banks can hold out for a while but not forever; margins are getting squeezed, and financing is getting squeezed. The precautionary actions that the small businesses are taking will help them for a while, but they can't hold out for more than six or nine months.

That is a particularly sobering statement for us in the Second District because, despite the fact that we are at the epicenter of the financial industry in New York—a major driver for the Second District economy—we have only just barely started to feel the effects of layoffs and reductions in activity in the city. Our regional leading indicator index went down very, very sharply in the month of October, but that is still to be realized in the economy. In particular, when we have looked at past episodes, the declines in incomes that we have suffered in the region have ranged between 4 percent and 10 percent in the financial industry when we actually get into one of these adverse periods. That decline is usually spread over three or four years, so we are really talking about something that could last a good bit longer than six to nine months in our District.

Second, we do a survey of inflation expectations that is in many ways similar to the Michigan survey, and our survey results are almost completed and are very similar to those of the Michigan survey. But we do ask one question that isn't asked there, and that is about the longer

run—that is, the 2010-11 outlook for prices and inflation. From that we can impute a risk of deflation, which was 6 or 7 percent in early October and is now 12 percent. So that risk of deflation seems to be growing even in the kind of population that is surveyed by the Michigan folks. Thank you.

CHAIRMAN BERNANKE. Thank you. President Rosengren.

MR. ROSENGREN. Thank you, Mr. Chairman. As requested, I will be brief. Like the Greenbook, we see an economy in which the unemployment rate remains very elevated, and inflation is below my target for several years. Our own equations would indicate that these elevated unemployment rates are likely to put even more downward pressure on the inflation rate than forecast in the Greenbook. The labor market is extremely weak, and there is a significant risk of deflation. I believe that greater use of nontraditional policies will be needed to mitigate more-severe outcomes than encompassed in the baseline forecast.

On the financial side I would just highlight two points. First, many banks are placing interest rate floors on home equity loans and on commercial loans. Pervasive use of floors may make the choice of which low federal funds target to pick of little relevance to actual borrowing costs. We may want to consider surveying banks to get a better understanding of where these floors are currently being set. Second, many firms are reporting that their lines are not being renewed and are asserting that it reflects problems with the bank not the borrower. Discussions with community banks indicate that, for smaller borrowers, community banks are benefiting from this trend. However, it may be useful to understand better how the reductions in lines, particularly at troubled banks, are affecting the overall economy.

Just a general point. I think bank micro behavior is going to be very important for macroeconomic outcomes, and we might want to increase the amount of effort that we are putting

into understanding both their financial condition and how their behaviors may be changing over the next six to nine months. Whether that's done through the bank supervision process or the loan officer survey or which mechanism we use, I think we need to probably get a little more intelligence on exactly what those trends are. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. The economic news since the last meeting has certainly been grim, and our presentation today bore that out. Our directors and other District contacts are quite gloomy, and their reports are also consistent with a broad-based pullback in discretionary outlays by consumers and firms.

In these circumstances with the funds rate around $\frac{1}{8}$ percent, it is hard to see a benefit of prolonging any further reduction. I agree with the staff analysis that any potential dislocation in money market institutions is likely to be minor, and I observe that, to the extent that money market institutions provide value to the economy in the form of circumvention of prohibitions on interest and other legal restrictions on financial arrangements, the traditional welfare analysis would count their demise as a benefit rather than a cost. But I have to admit I haven't tried explaining that to a money market fund manager. [Laughter]

The hard question now, I think, concerns the possibility of deflation. We have seen negative overall inflation since energy prices peaked in July—it was 1.8 percent for the PCE at an annual rate since then and $4\frac{1}{2}$ percent before today's release for the CPI—and the core indexes have softened notably as well. I still think we are going to be able to avoid this fairly easily, but I do not think the risk is negligible. It is one of the most dangerous prospects we face right now, and we have to pay very close attention to it. The reason I think it is going to be easy to avoid is that we have seen declines in core inflation before when energy prices fell—mid-2005 and late 2006 are recent

examples. Further, compensation growth does not yet appear to be slowing rapidly, although those data are fairly dated and so it is hard to sense what the last couple of months are going to look like. The key to avoiding deflation, of course, is our ability to shape expectations about the future course of monetary policy. I had a spirited discussion about this last night over salad with Governor Kohn and Mr. Eggertsson. This is essentially what all the models tell you—that staying out of a deflationary equilibrium requires commitment to paths for the monetary base that are inconsistent with a steadily falling price level and that commitment to keeping the nominal interest rate low is not sufficient.

Now, it is sort of hard to get a handle on this. It took me a while, but the key to thinking about this is that models with Taylor-type rules embed within them the perfect credibility of inflation returning in the long run or over a medium term to the targeted rate that is built into the Taylor reaction function. If instead you take those models and just allow arbitrary fiscal and monetary policy rules, that is when you are forced to face the result that committing to an infinite series of zero nominal rates is not sufficient and that you have to keep a monetary aggregate from declining along with the price level.

One way to think about this is that it is just like preventing inflation. To prevent inflation, we have to prevent expectations that the value of money will fall in the future. To rule that out, we have to rule out expectations that the quantity of money is going to rise continually, and we do that with interest rates. This line of reasoning is different from the reasoning you get in a Phillips curve with purely backward-looking expectations, where you have a recursive relationship between real growth and inflation. Instead, in any model with a little forward-looking stuff, you have expectations driving things. Preventing deflation is the same thing—preventing expectations that the value of money will rise indefinitely. To do that you need to prevent expectations that the

quantity of money will fall indefinitely, and you would like to do that with low interest rates, but you cannot at the zero bound. So you have to influence expectations about the future course of the base. This to me is the simple intuition for that. All of this is just to suggest that our ability to communicate is going to be crucial.

MR. KOHN. Including over salad. [Laughter]

CHAIRMAN BERNANKE. All of these strategies are time-inconsistent, of course. So we have to be willing as a Committee to sit here and accept higher-than-normal inflation ex post. I just point that out. We have to ask ourselves if we would be willing and if the public would be willing to accept that.

MR. LACKER. “Time-inconsistent” is another way to say that they require commitment.

CHAIRMAN BERNANKE. I understand. I’m just saying that there are also different ways to do it. We could also just target a higher inflation rate, which is probably another way of doing it.

MR. LACKER. Right. You could target the inflation rate not falling. I mean, we don’t have to go all the way. This is the subtle thing about this. I think the pure Taylor rule overstates our credibility, but people do not think that we are going to follow it perfectly. They don’t have very diffuse priors over what policies. We are somewhere in-between, and I think bolstering that credibility is important. Something I was going to say in the policy round—given that we haven’t announced a target, we ought to try that first. That comes first, before saying that we are going to move our target up for a little while.

CHAIRMAN BERNANKE. I would just comment—and I think that your point is a good one—as we go forward, we are going to be thinking hard about how to influence expectations. Absolutely. Your point is also right, as we discussed earlier, about why we need additional policies besides our zero rate policy, either other kinds of quantitative policies that are obviously linked to

base movements or fiscal or other policies as well. So I don't think there is that much disagreement on the analysis.

MR. LACKER. No, I do not think so. The point I was making about the base is that none of those is sufficient to rule out deflation without specifying what the base is.

CHAIRMAN BERNANKE. Okay. President Pinalto.

MS. PIANALTO. Thank you, Mr. Chairman. The reports from my contacts have been very weak for several weeks now. Sadly, I feel as though the data have been catching up with the anecdotal comments that I have been receiving for a while. I have been hearing a lot of comments along the lines of "orders have fallen off a sheer cliff," "the lights were suddenly switched off," and "my business is dead in the water." One thing I have noticed is that the negative outlook has spread to more and more corners of the economy, even those corners that had remained robust for a relatively longer period. For example, one of my directors, who runs a manufacturing company and exports 70 percent of his products, is a producer of highly specialized equipment that is used in steel production. He has few competitors and no debt, and until recently he was feeling very comfortable with a two and a half year backlog. Last week he reported that the backlog has essentially vanished. His customers' problems have now become his problems. This has become a typical refrain. We had become used to hearing companies talk about their desire to hold onto liquidity. Now businesses are also focused on how they are going to protect themselves in this weakening economy. Even businesses with a healthy amount of cash are cutting back sharply on investment, hiring, and production plans.

In this environment, it is clear that forecasts need to be revised down sharply. Like the Greenbook, my own projection, which seemed pretty dire just a month ago, has also been revised down sharply with the incoming data and anecdotes. The question now is how long and how deep a

decline we will experience. At the same time, it also remains difficult to judge how far disinflation will go. My projection sees substantial output gaps and energy prices that are likely to remain low. That has caused me to lower my inflation projection further as well. My inflation forecast now is clearly below desirable levels for much of 2009. Still, it looks as though the risks remain very much to the downside for output and inflation, if only because further downside misses are getting more and more problematic. The insurance metaphor, I think, has been exhausted. We are now more in a situation of treating mass trauma. Perhaps some of our actions will later be judged as having gone too far. But in my view, right now it clearly is better to ensure that the treatment is large enough rather than risk falling short. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. The Third District economic news is similar to the national news. It's all bad. Our December business outlook survey, which remains confidential until Thursday, will post another very weak number. In November the number was minus 39.3. The December reading will be released, and it will be minus 32.9—somewhat better but still deeply in negative territory. New orders, shipments, and employment are all very weak. Price indexes on the survey have fallen appreciably below zero for the past two months and are near their lowest levels since we began the survey in 1969. This is after being at nearly their highest levels over the same interval just a few months ago. Moreover, firms are expecting prices to continue to decline. November's reading marked the first time that the future prices-paid index has been negative. The mood is generally quite grim. The Greenbook also paints a very bleak picture. I would like to think that this isn't the most likely outcome, but it is increasingly difficult to argue against that based on recent economic data. I have revised down my own forecast, of course. Although I'm still not quite as pessimistic as the Greenbook, I admit that the Greenbook is no longer an outlier as I am used to

thinking about it. The forecasts for output are nearly as bad as or are worse than the economy experienced in 1974-75. Inflation has moderated significantly, and near-term inflationary expectations have also moderated. Our December Livingston survey participants see CPI inflation averaging just $\frac{1}{2}$ percent in 2009. In the Greenbook, forecasted core inflation will be just over 1 percent next year and will decelerate to $\frac{3}{4}$ percent in 2010.

With the growth prospects so weak and inflation expectations decelerating, the appropriate real funds rate obviously will probably decline, raising the possibility as we discussed yesterday that the zero bound on nominal rates will pose a problem for us. At the same time, since mid-September the effective funds rate has been trading well below the FOMC's target of 1 percent. As we discussed yesterday, we are effectively conducting monetary policy through quantitative easing—by which I mean an expansion of the Fed's balance sheet by both conventional and nonconventional means. I have no objections in principle to this easing process; but as I discussed yesterday, I believe that we need to acknowledge publicly that we are now in a new regime, with a new way of implementing monetary policy, and that it is a deliberate choice of this Committee. Otherwise we risk confusing market participants or implying that we are no longer in control of monetary policy. But in doing so, we need to communicate how this policy will be conducted going forward. The Board of Governors and the FOMC will have to decide how they will handle the governance issues surrounding this new regime. It seems clear to me that monetary policy determinations should remain in the purview of the FOMC regardless of whether we are using standard or nonstandard policy tools.

Thus, I think we have to come to grips with three very important policy issues at this juncture. They include (1) how to implement monetary policy via an expansion of our balance sheets for standard fed funds targeting; (2) what decisionmaking process the FOMC and the Board

should use in implementing these policies via the balance sheet expansion; and (3) how to communicate all of these to the public in a transparent and, most important, credible fashion. I agree with the Chairman that we need to maintain and embrace the collaborative process between the Board of Governors and the FOMC, which has been our method of moving forward during this crisis. But I remain convinced that in these times of uncertainty we need to be explicit and to communicate that monetary policy remains under the purview of the FOMC. As we discussed yesterday, our primary goal is to set policy that yields the best economic outcomes for the economy, consistent with our dual mandate. I think our history demonstrates that the institutional structure of the FOMC and clearly articulated goals and methods yield the best policy. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. I think President Fisher at the last meeting actually proposed that, since we all knew where the economy was, we just suspend discussion and get on to what to do about it. Forgive me for a six-week reaction function here, President Fisher, but I tend to agree with that. I will be very brief. The points I will make have either been made or will be made, I am sure. [Laughter] We are facing dysfunctional financial markets, a rapidly weakening real economy, and a very negative psychology, a darkening mood. In addition, I am picking up in my contacts uncertainty or even questioning of what can be done and what good anything close to conventional monetary policy will do. My board of directors, advisory councils, and other contacts reflect deepening pessimism, and many of those contacts confirm the view that consumer activity and the economy in general pulled back dramatically in September and October.

I have adjusted my forecast similarly to the Greenbook and commercial forecasters. I think it is very difficult at this point to forecast with any confidence that conditions will gel in a way

necessary for a recovery. The Greenbook sees a somewhat sharper snapback by midyear, reflecting the influence of a fiscal stimulus, than I am prepared at this time to project. Our forecast assumes a protracted period of weakness through all of 2009, somewhat more along the lines of the “more financial stress” scenario in the Greenbook.

Regarding financial markets, I would just comment that the pressures on the hedge fund sector have clearly not abated and may be intensifying. Over the weekend we picked up rumors of a Fed intervention that has not been discussed here, so I presume that it was just a rumor. Nonetheless, rumors were circulating that a major hedge fund group was about to collapse and that our people were “in,” so to speak, over the weekend. As Bill mentioned yesterday, the Madoff scandal certainly has not helped the picture regarding hedge funds.

Regarding risks, it is not my baseline scenario, but the risk of deflation obviously cannot be ignored, and the apparent speed of disinflation is quite a concern. The Atlanta staff prepared several forecast scenarios, and there were some plausible downside scenarios that really were quite ugly. So to preview later comments, I think the balance of risks at this point is decidedly to the downside and justifies a trauma-management approach—or, in more normal terms, a risk-management approach—of acting aggressively at this meeting. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you, and if there has been any intervention in hedge funds, the Chairman is unaware of it. [Laughter.]

MR. LOCKHART. I am relieved to hear that.

MR. FISHER. He just wanted you to know about it, Mr. Chairman.

MR. LACKER. You said “has been”? [Laughter]

CHAIRMAN BERNANKE. President Hoenig.

MR. HOENIG. Thank you, Mr. Chairman. The Tenth District's economy, like the others, has systematically worsened. Layoffs are increasing. Our retail sales are down. The housing market is certainly not improving, and manufacturing has weakened. In our two stronger areas, energy is showing a pretty good slowdown with these falloffs in prices, and rigs are being stacked; the agricultural sector is also feeling the pressure as commodity prices fall. So it is uniformly poor. As far as the national economy and outlook go, I have no major differences with the outlook that has been presented by others. I would tell you that we have done different projections ourselves. I think a lot depends on what will be developed on the fiscal side as we move from here, and I am kind of waiting to see about that.

I do have one other comment and perhaps request as we think about this, and it follows on yesterday's conversation. It strikes me, as I look broadly and see what's happening in our own region, that the intermediation process is broken as it goes through the banking industry and then more broadly than that. The deleveraging process that is under way is actually accelerating—it is worsening and complicating our ability to fix the intermediation process. As a result, we as the central bank are going around that process as we try to get credit working, and I understand that. But it does have consequences—some good for those particular markets where we're bringing intermediation forward but also perhaps some not so good as other sectors are left behind in that. My point is that we really do have to focus, in working on the fiscal side with the Treasury or whomever, on fixing the broken intermediation process, and that is the banking industry. I know we are working with the TARP. It needs some additional work. But out of that comes my request. We spent a fair amount of time yesterday talking about the Japanese experience. I wonder if we wouldn't benefit if we looked at the Nordic experience of the early '90s—how you go in, take a look at that, and how you conduct policy around that—and have a discussion among ourselves

because I think there are some lessons there that we might learn to our benefit as we move forward from here. That's a suggestion I have, not just my report on the District. Thank you.

CHAIRMAN BERNANKE. Thank you. It was a good suggestion. I have looked at that example and had a chance to talk with Stefan Ingves, who is the Governor of the Central Bank of Sweden and was very much involved in that. It was a very good and prompt response, but it was different from our current situation in that the banks were already mostly insolvent and no longer functioning when the government intervened. They took the standard steps of taking off nonperforming loans—so the usual process. They still had a significant recession. I think the basic lessons are there, but we have some characteristics in this particular episode—banks still functioning, the complexity of the assets, and so on—that make it even more difficult.

MR. HOENIG. I agree with that, but at the same time, I see the similarity. When you don't go in and try to drive it back quickly, you get the Japanese outcome of prolonging it. I don't know where the banks are yet, but I know that things are getting worse and that the intermediation process is broken. So just maybe there is something in-between—something that can be done that forces outcomes for some of these banks. Even though they are not insolvent as such, we have poured a ton of equity into those institutions, and I am not sure if we shouldn't have added some other elements to that that might have helped on the other side. That's my point.

CHAIRMAN BERNANKE. If you can indulge just one more observation, which is that one thing we learn from these episodes is that the political economy matters tremendously. The public is very reluctant to get involved in putting money into banks, and only when they become persuaded that doing so is essential do you get that result. In Japan it took a long time. In Sweden it was much quicker, and that's an important element. A two-hander from President Bullard. Yes.

MR. BULLARD. May I just make one comment on that? For those of you who have not read about the Nordic experience, Seppo Honkapohja, who is a member of the Board of the Bank of Finland, has given a speech within the last two months. You can probably go to the Bank of Finland web page. There may be other information, but that is just one summary from a person who lived through it and has been involved in policy for a long time.

CHAIRMAN BERNANKE. Thank you. President Yellen.

MS. YELLEN. Thank you, Mr. Chairman. In my view, cumulative recessionary dynamics are deeply entrenched, with mounting job losses leading to weaker consumer spending, tighter credit, more job losses, and so on; and this nasty set of economic linkages is gaining momentum. Like the Greenbook, I anticipate a long period of decline, and in fact, the consensus forecast is that we're now in the longest and one of the deepest postwar recessions.

I hope that a recovery will begin in the middle of next year, but the risks seem skewed to the downside for several reasons. First, compared with the average recession, we face unusually difficult financial conditions. My contacts complain bitterly that even firms with sterling credit ratings have difficulty securing credit. Some banks appear reluctant to lend because financial markets are skeptical about the quality of their assets and their reported net worth. An accounting joke concerning the balance sheets of many financial institutions is now making the rounds, and it summarizes the situation as follows: On the left-hand side, nothing is right; and on the right-hand side, nothing is left. [Laughter] The second factor skewing risk to the downside is the unusually fearful and pessimistic psychology that's developed. One director, who heads a national department chain, predicts carnage in the retail sector after year-end, as stores close after trying to hold on through the holidays. Although some stores have been able to keep sales up to reasonable levels, heavy price discounting will translate into huge losses. Businesses have also generally turned very

cautious, hoarding cash and slashing capital spending. A third factor that worries me is that, in contrast to many past recessions, this one is global in nature, and the fact that it's a worldwide slowdown—while lowering commodity prices, which is good—is also going to make it harder for us to pull out.

Turning just very briefly to the labor market, the Beveridge curve chart that Stephanie presented during her briefing suggests that we have seen an unusually large increase in the unemployment rate recently in comparison with the decline in job openings, at least in the JOLTS data. I think one interpretation might be that the unemployment rate has risen in part because we have had an unusual rise in labor force participation during this recession. Labor force participation has been higher than would be expected, particularly for three demographic groups: young adults, married women, and older workers nearing retirement. Analysis by my staff estimates that this rise in participation could reflect behavioral responses to unusual credit constraints and wealth declines. Specifically, young adults aged 20 to 24 years appear to be entering the labor force in unusual numbers, and that might reflect diminished access to student loans. Similarly, more married women are entering the labor force, and that's a possible reflection of diminished access to home equity and credit card loans. Finally, an unusually large number of older workers are in the labor market, and that may reflect the negative wealth shock associated with the collapse of housing values and the plummeting stock market. All in all, I expect the anomalous increase in labor force participation to put continued upward pressure on the unemployment rate.

With respect to inflation, developments since our October meeting have again lowered the outlook. I'm particularly concerned about the disinflationary effect of actual and prospective economic slack. During the postwar period, core PCE inflation has actually fallen at least $\frac{3}{4}$ percentage point in every single year in which unemployment has averaged $7\frac{1}{2}$ percent or more.

Given that in each of the next two years the unemployment rate is predicted to average at least 8 percent, it seems quite likely that by the end of 2010 core inflation will have fallen at least 1½ percentage points. That creates a very real risk of deflation. So under these circumstances, I definitely believe that we should do everything in our power to stimulate aggregate demand.

CHAIRMAN BERNANKE. Thank you. President Evans.

MR. EVANS. Thank you, Mr. Chairman. As gloomy as our last meeting was, conditions have deteriorated substantially further since then. Practically all of my contacts reported that economic events had turned sharply lower once again in the last three to five weeks. This goes well beyond the auto sector and other parts of the District that have been struggling for some time. The most optimistic comment from my directors was this, “At least Iowa is going to hell slower than everywhere else.” [Laughter] It is tough to follow that accounting joke, you know—that was good. More seriously, the most optimistic theme I heard from a number of business contacts went something like this, “We are conserving cash and furiously cutting costs by year-end. But we hope to pause in the first quarter and take stock of where conditions appear to be heading. Then, we will act accordingly.” Frankly, I doubt such a wait-and-see pause in cost-cutting will occur that soon.

For the purposes of this meeting and our actions over the next few months, I agree with the main thrust of the Greenbook projection. We are facing large contractions in the next two quarters, and I don’t expect to see meaningfully positive growth before the fourth quarter. I think we need substantial further accommodation after today’s meeting. I see the timing and the size of those actions for the most part being shaped by the large recessionary forces in train and the enormous financial headwinds.

The disinflationary forces in play clearly are strong, but currently I do not expect that they will prove large enough to generate outright deflation. In terms of my earlier question about the Greenbook forecast—as I understand the way it was put together—if the quantitative easing helps, monetary policy would be somewhere between the funds rate at zero and the optimal control. So, in fact, it would be a little better than I first suspected. Inflation would be somewhat above that path. That might be a useful benchmark to watch for if we are fortunate enough for the forecast to be that stable, but time will tell.

Quantitative easing should also lead to an increase in the monetary base. I don't know if there was any lasting conflict between your comments and President Lacker's, but I think that what we have contemplated will lead to the base increasing and that will generate expectations about inflation beyond just Taylor-rule dynamics, I would guess. In fact, there is certainly a lot of discussion and criticism out there that our balance sheet is going to lead to large inflationary risks. I don't share that, given how I think we will unwind the programs. But that certainly would help, and it would move us in that direction. So I will keep an open mind on deflationary risk. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Stern.

MR. STERN. Thank you, Mr. Chairman. Well, as just about everyone has said—and I certainly agree—the near-term outlook is grim. Virtually all the anecdotes of any consequence that I have received recently have been negative. Payroll employment has been, obviously, dropping significantly; and if you look at the trajectory, if that kind of trajectory continues for any length of time beyond the next month or so, it will surpass the declines in employment that we typically have seen, certainly in the last three recessions.

My outlook for the real economy for the next five or six quarters has essentially the same profile as the current Greenbook. I do have a somewhat better recovery starting in the second or third quarter of 2010, but at this point I have to admit that it is more hope than conviction. It is based on a diminution of many of the factors that are currently restraining the economy and producing the significant contraction that is under way.

As far as the inflation outlook is concerned, I don't have quite as much disinflation as the Greenbook does, but I wouldn't say that we are all that far apart at this point. One footnote to that: I do get a lot of comments and questions along the lines that President Evans mentioned—"Gee, with that expansion in your balance sheet, with all those reserves, aren't we going to have a lot of inflation in the future?" Maybe I ought to say "yes" to that question.

CHAIRMAN BERNANKE. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. I will be brief. In the Eighth District, there is a clear and sharp downturn, as in the national picture. There is a clear turn to survival strategies, and you really see that when key CEOs and other figures start talking about lower capital expenditures for 2009, cutting the lower levels in 2008 in half or more. I think that's very consistent with the Greenbook. The effects on our District from any auto restructuring may be substantial, and that is something I have ratcheted up here in the last few months. A common theme among all contacts—and it echoes some of what has been said around the table here—is that rate cuts at this point will have no effect on the macroeconomy. Their thinking is, well, of course, since short-term Treasuries are trading at zero—I think one-month Treasuries actually hit zero here a bit ago—they are not going to have any effect. But as Governor Duke pointed out yesterday, and I think this is an important concern, the impact on bank profitability may be substantial, exactly at the wrong time. First Vice President Cumming picked that up, too. I think

that is a concern. I think it suggests favoring an option of de-emphasizing the federal funds rate as a target at this meeting, as we will get to in the policy discussion. But then you might not trigger this prime rate cut that would otherwise normally accompany a major move by the Fed.

On the national picture, I expect a sharp downturn in the fourth quarter and the first quarter. Expectations are extremely negative now and extremely fluid. I think that is probably the biggest factor facing us going forward into 2009. The expectations are so fluid that they portend a deflationary environment if we do not control the situation very soon. I am also very concerned about the global aspect because we haven't really seen this kind of coordination across the globe in the rapid movement to probably zero interest rates. I don't think we really know what that means going forward. We are going to be looking at bad news coming in at least until summer, and we have no way at this point to signal a reaction to that bad news via normal policy. That is the gravity of the situation, and in some ways it is the downside of a preemptive policy. Had I been on the Committee earlier this year, I would have supported the preemptive policy to try to avoid this situation. But one downside of it is that you do not have the ability to continually react as bad news comes in.

In sum, I think we are moving to a Japanese-style deflationary, zero nominal interest rate, situation at an alarming pace. To stay in the game and control expectations, we need a Volcker-like transformation, something like—although the situation is different—the '79 announcement, which knocked private-sector priors off the idea that they should trigger all reactions to announcements on nominal interest rates. You need a dramatic move that emphasizes this new reality. Continued focus on the federal funds rate at this point would not face that reality.

Above all, we have to establish in the minds of the private sector—and maybe in our own minds as well—that we control medium-term inflation. We should take the attitude that we can

create the inflation we need to stay near target by one means or another. I think, actually, this may be an excellent time to set the inflation target, although it sounds as though we are drifting away from that. But if I can argue for it for a few minutes here, I think it might have an important effect on the navigation through the recession during 2009. Of course, in normal times, to undertake some action like that, we would want a lot of study, and we would want to have time to talk it through with the Congress and other interested parties, as we would for interest on reserves. But we don't have that luxury right now. We want to take the action now to help control the situation, and I think we could sell that as a work in progress, which can be modified later. But we do want to keep these expectations under control in this very fluid situation. Thank you.

CHAIRMAN BERNANKE. Thank you. President Fisher.

MR. FISHER. Mr. Chairman, thank you. President Rosengren talked about micro behavior, and at the beginning, First Vice President Cumming talked about the hunkering-down mentality. I have been focused on the microeconomic behavioral responses to our current situation. As one of my CEO contacts outside my region said, we are basically all, in his words, "chasing the anvil down the stairs," and that is that the behavioral responses of both businesses and consumers are driving us into a slow-growth cul-de-sac and a deflationary trap.

One CEO I talked with was quite pleased that he could borrow \$40 million over the weekend for a total of \$250. That is great from a commercial paper standpoint; he is an A1/P1 issuer. However, were he to go to the longer-term debt markets, it would cost him 7½ percent. So they can finance their daily operations easily. But in terms of their long-term planning, they and others are responding—and I see this uniformly across my contacts—out of concern about the high cost of debt and the spreads over Treasuries, by doing what any businesswoman or

businessman would do. They are planning on less cap-ex, and they are cutting back on their plans for acquisitions of the weak, which they would like to take advantage of under the current circumstances. They are also responding to the situation by cutting back on head count. So, Chris, there is very much a hunkering-down mentality, not just in my District but across the country. That leads to further economic weakness—that plus the fact that they are chary about issuing and paying for things with shares in a very weak market. I am hearing more and more worries about their pension liabilities and how they are going to be able to finance those. Obviously this is leading to the kind of economic behavior that none of us would like to see.

On the consumer side, you see a similar behavioral pattern. It seems that after Black Friday, according to my sources, there was weaker behavior than one had expected. The spending pulse data that I get from one of the large credit card companies reflect what one would expect under these circumstances—that is, a shift to nonbranded products, smaller purchases of items, a rotation out of credit cards to debit cards and cash payments according to the pay cycle, and overall an expectation, on both the business and the consumer side, that things will get cheaper if they wait longer and they postpone either their cap-ex or their consumer purchases.

The one ray of sunshine that I was able to find is that one large law firm, Cravath, has announced that it is not increasing its billing rates in 2009, [laughter] and other law firms are actually planning to respond by cutting their billing rates. One woman whom I know summarized it this way: “This is the divorce from hell. My net worth has been cut in half, but I am still stuck with my husband.” [Laughter]

CHAIRMAN BERNANKE. Thank you. Governor Kohn.

MR. KOHN. I am not going to even try to top either of those anecdotes or jokes. I agree certainly with the thrust of the comments around the room. The economy is in a steep decline.

There was a break in confidence somewhere in September that took what had been a gradual decline in employment, production, and output and made it much, much, much, much steeper. The feedback loop between the financial markets and the real economy just intensified—turned up many, many notches at that time. Households and businesses, as President Fisher was remarking, are very worried, and they are acting in a way to protect themselves. They have cut back on spending, and they have cut back on lending.

I think the response of businesses is particularly interesting. They responded very, very rapidly to the falloff in demand with cuts in employment and production. So we are not even getting the sort of automatic stabilizer effect that we usually get from a buildup in inventories and a bit of labor hoarding as demand drops. Thus businesses' actions are just accentuating the weakness. As many have remarked, the weakness is global, everywhere, including in emerging-market economies where, as Shaghil showed us, the inflow of capital has slowed substantially. There is no real region to lead the globe out of this swamp we are in.

Financial markets remain very strained. I think of particular concern are the securitization markets. When they are not operating, a lot of credit to households and businesses won't be available at the same time that the banks are tightening up very sharply. We have seen in these charts that household and business borrowers with anything less than very high credit scores are just finding credit either extraordinarily expensive or unavailable. As a consequence, a very sizable output gap has opened up. I think we can see that the decline is going to remain steep for some time. The multiplier–accelerator effects of the drop in demand we have seen over the last couple of months have to feed back through consumption and investment. I don't think we have seen the full effect of the tightening in credit conditions and the decline in wealth from the end of September on.

You can see the continuing economic decline in the initial claims data, the weekly IP, and the anecdotes we heard around the table on sales; and financial markets are going to remain impaired for a while despite our best efforts to open them up. There are huge losses in the capital of intermediaries to absorb, so folks will be very cautious about making loans. As long as investors, savers, households, and businesses see the economy in steep decline, the fear that is gripping the financial markets and the economy isn't going to abate very rapidly.

Inflation is decelerating across a broad front, and that is going to continue. Economic slack will be increasing, cost pressures will be abating, and the ability to pass through cost increases will be highly constrained. So far, longer-term inflation expectations seem to have been reasonably well anchored, though they are very hard to measure. But I agree with President Bullard that we are going to need to watch this very, very closely for signs of a disinflationary dynamic taking hold. I think what happens to the economy and inflation over the latter part of next year is extremely uncertain. We have huge changes in forecasts in very short periods of time, and I suspect, like the staff, that the improvement in financial markets and the rebound in the economy will be gradual, in part reflecting the limited power of monetary policy. But even if we thought that a sharper rebound next year was a distinct possibility, I don't think it would matter very much for our policy purposes here today. The trajectory, the economic decline, the extent of the output gap, and the degree of disinflation in train all imply that our task at this time is to try to limit economic weakness. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Warsh.

MR. WARSH. Thank you, Mr. Chairman. Several quick points. First, the latest leg of deterioration, which began in mid-September, is showing few signs of abating, as Governor Kohn suggested. I think the November retail sales data look like a head fake. Revisions to

September and October, as the Greenbook suggested, make us think that November was probably worse and December worse still. So in some ways I think our job is difficult because the weakness seems to be accelerating.

Globally, the deterioration is found everywhere. The data are playing catch-up. I am less optimistic that foreign activity will perform as well as the Greenbook suggests and that foreign activity will respond in 2010 because of lags in policy response and less flexibility in their labor markets, their product markets, and their political markets. The depth and the degree of the fall in data and policymakers' expectations overseas, particularly in Asia, are remarkable, shocking even, and I think we are likely to see policy responses there that are hard to judge but are likely to be changing pretty quickly.

In terms of U.S. households, real household net worth has collapsed about 15 percent or so through the end of the third quarter—more than in 2001 and more than in 1974. Ongoing declines in financial markets and house prices are likely to depress wealth further in the fourth quarter and beyond. So-called savings from lower energy prices look as though they pale in comparison to what else is happening to U.S. household balance sheets. As we have discussed before, every asset everywhere in the world is being revalued, and households are feeling it.

In terms of financial markets, I will underscore what Dan suggested and what Bill suggested yesterday—the significant overall deterioration in conditions. We all have a tendency at this point in the year to say, “Well, there are a lot of year-end effects, and we are not going to really know until we get through this period.” We have had baby versions of year-end effects in the quarter-end effects in almost every meeting that we have had, and I have been a little dismissive of those. I would say that there does appear to be more year-end stuff going on in these markets than there has been since this period of weakness began.

If you think about the two former investment banks that have balance sheets and year-ends that close at the end of November, this is the last quarter in which they will have that. They have had more demands and more interest in, in effect, renting out their balance sheet as their customers' balance sheets end in December than they ever have had. The prices that are being paid for them to rent their balance sheets—to take exposures off the balance sheets of their clients—suggest that maybe, just maybe, the year-end effects are more significant this time than they were in the previous six or seven quarters. It doesn't give me a ton of optimism, but in January, market functioning could look a little better, and I think that would be the best news we have seen for a while. You have heard me say before that, until we see market functioning improving and until we see these markets clearing, it is unrealistic to expect the real economy to turn. I still think that is true.

Turning to two final items, inflation and the fiscal package—on the inflation front, although there are risks in this environment for prices to fall below those consistent with price stability, I still believe that these risks are not likely to materialize in the medium term. So I take stock of, but ultimately discount, the Greenbook's deflation alternative simulation. On the fiscal front, more, bigger, faster is what is going to happen inevitably to what I would describe as the first fiscal package of 2009. The trillion dollar number over two years, which is now being bandied about, is larger than the Greenbook forecast and looks almost assured, with a greater share going to the states in my view than in the Greenbook forecast, more toward public infrastructure, perhaps less toward tax cuts on a relative basis than in the Greenbook, but bigger. I would be surprised if that initial package isn't supplemented through larger annual appropriations and another stimulus package, if not by the end of 2009 then by 2010. As a result, my own sense would be that the 2010 deficit is likely to be significantly larger than the

Greenbook forecast. Now, knowing the precise contours of this fiscal package is tough. I would say the only good news is that the duration of the slowdown is likely to suggest that the fiscal package may end up being somewhat more permanent in its incentives and somewhat more permanent in its effects; and I suspect, because of that, it is likely to provide some good news to the economy. But I wouldn't expect that to happen in the next twelve or eighteen months, other than perhaps a bit of benefit on the arithmetic. In terms of changing the overall contour, pace, and strength of the resilient economy, I would say that is still quite a way off. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Kroszner.

MR. KROSZNER. Thanks. President Lockhart's forecast about what members would say about the forecasts I think has turned out to be right, and I certainly don't want to disappoint. [Laughter] So I agree with what others have said, and I think most everything has been said about the intensification of the recessionary flames around the world. What I will do is just quickly look at it from the perspective of part of the banks' balance sheets and the things that may not be left on those balance sheets, to just underscore how I think this is going to be protracted for the financial services sector for a while.

On the consumer side, as many people have mentioned, the very sharp step down in employment, the very large job losses, the increases in the unemployment rate, and the decreases in wealth have been leading to very significant increases in consumer delinquencies and very high roll rates—that is, people who become delinquent rolling directly into charge-off. This is happening not only on the credit card side and on a lot of different parts of the consumer side but also in mortgages, for which we are seeing exactly the same kind of thing. Although the most recent numbers that came out from the Mortgage Bankers Association suggested some

stabilization in foreclosure starts, that actually had more to do with the laws in various states slowing down that process rather than any real change in the underlying economics. Of course, we still have a lot of option ARM types of resets that will be coming through in 2009. So a lot of pressure is there, and as was mentioned, housing prices are still going down.

We haven't yet seen as much of an actual downturn in commercial real estate, but undoubtedly that will occur as fewer people are shopping in shopping malls and as a lot of other commercial real estate projects don't have the payoffs that people expect. Also, an enormous amount of refinancing is going to be necessary during the next few months, and having to pay an additional 600 or 800 basis points really changes the economics of a lot of these projects, if they can even get the refinancing at an additional 600 to 800 basis points. For leveraged loans, another piece of the balance sheet, as people have said, there is very little activity going on in takeovers. The only positive there is that the failure of certain deals has taken some of the pressure off certain banks' balance sheets.

On the commercial and industrial side, as we have noted, the investment-grade market for debt issuance seems to have maintained itself, but that is really one of the few markets that is there. If any challenges come in there, it could be very, very difficult for firms to finance investment. We certainly have seen the spreads going up recently, even if the volume has come back a bit. But as we have seen in the non-investment-grade part, the spreads have blown out, and the financing is not there. That tends to be a little more of what many banks have on their balance sheets, and so I think that is representative of the challenges that the banks are going to have. That suggests that we have a lot of challenges in banking and financial institutions' balance sheets to come that have nothing to do with any particular level of assets or accounting

issues but just real economic factors that are going to be affecting the balance sheets. So the credit headwinds are going to be very, very strong for a number of quarters going forward.

The points that President Rosengren made are extremely important ones. We have to think about, as we move to the zero lower bound, how that is going to affect behavior of financial institutions. Certainly, the staff memos were good on addressing some issues, but I think that other things that have been mentioned, like imposing minimums or floors on interest rates on loans, we have not carefully analyzed or really understand well. There may be a variety of other responses that we don't understand well that we really do need to get a better handle on, both to see how the effects of traditional monetary policy change—the transmission mechanism—and to think about the nontraditional aspects of monetary policy that we would be undertaking by using our balance sheet. So where can we use it most effectively? If the financial institutions are changing their behavior, we need to be cognizant of that and think about where we need to try to unfreeze markets if we are going to be using our balance sheet in that way, and I think it is very important that we do so.

I will underscore also what other people have said about the great importance of clearly articulating what we are doing. It is not that we have given up and that the Fed is impotent but that, through changes in our balance sheet, we can be quite potent in particular markets and in general. That then brings us to whether we can be too potent and raise inflation concerns. Exactly as President Stern said, we should be so lucky to have that as our problem. We do need to make sure that we maintain credibility and show that we feel that we can and do act to offset concerns about deflation. It is very difficult to tell what the price-level evolution is likely to be over the next year, but I do think that there is a real concern about that, and we have to take that very, very seriously going forward. I think we would, obviously, be able to get out of these

different programs, and we need to think about getting out of them at some point. But right now the key is getting into the programs, using the nontraditional approaches, to make sure that we offset a deflationary psychology that could develop. Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Duke.

MS. DUKE. Thank you, Mr. Chairman. Yesterday I talked about the income statement of the banks. I would like to talk a bit about the balance sheets now. Up to this point, for the small and medium-sized community banks, it has been pretty much business as usual. But now even those banks are finding it increasingly difficult to lend. Community banks and regional banks are trying, but it is tough. Funding is tight and expensive. It costs 3½ percent to keep a CD and 4 percent and up to attract one. The smaller banks are especially bitter about pricing against Citi and those nonbanks that have recently converted to bank holding company and thrift holding company charters.

For a bank to qualify for TARP funding, the examiners are raising the bar on noncore funding. One bank reported a meeting with both the OCC and the Fed in which the OCC criticized, and the Fed defended, the bank's use of the discount window. Examiners are raising the bar on capital: 12 is the new 10 on risk-based capital. Borrowers are not in nearly as good shape as they were. The best credits are choosing not to borrow, and they are adjusting their plans so that they get through on their own cash flow. So the requests coming into the banks are more and more likely to be desperation requests—loans to cover operating losses or to meet payroll. Cracks are appearing in C&I loans. Some banks are exiting loans to entire industries, especially auto dealers, marine and construction trades, and retail. The performance of commercial real estate, especially retail properties, is deteriorating. Hospitality is falling off rapidly, and office buildings are expected to be next. Apartments are still okay, and all of this is

in addition to problems with construction loans. Lower mortgage rates are helping refinance, but it is not the best time of the year to judge what it is going to happen with purchase activity.

There are still issues with jumbos, with down payments, and with requirements for very high credit scores.

As we have talked here, it occurs to me that perhaps the traditional tools of monetary policy are all directed at bank credit, and the strongest nontraditional tools that we have are addressed more to the securitization markets—the TALF and the purchase of GSEs. In this instance, most of the problems are not really caused by a cutback in bank lending but a complete collapse of the securitization markets, and so that is why these tools may be more necessary.

I asked questions also about the TARP capital and got different reactions. Several bankers said that they didn't need it, they were scared off by the ability of the Congress to change the terms at any time, and they had elected not to take it. Some took it because they thought they could leverage it into good business. Some took it as cheap insurance. Some took it to be in a position to acquire in what they see as the necessary weeding out of weaker players, and they think that should happen sooner rather than later. Several complained about delays in providing terms for smaller banks. Every single bank was adamant about the evils of mark-to-market accounting and other-than-temporary impairment. There is a big diversion between market losses and credit losses, so that leads to bankers who are afraid to buy securities because they are worried about further marks as the markets go down. But they are also unwilling to sell securities because they don't believe that the current market price adequately reflects the potential credit losses. There is some speculation that the mark-to-market losses will absorb all of the TARP capital that was just injected, and I think that is something we might want to

calculate as fourth-quarter reports come out. Then, the next big writedown is on servicing portfolios as lower rates spur refinancing activities. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. And thanks, everyone, for a very concise but also very informative roundtable. Why don't we take a coffee break until 11:30. Thank you.

[Coffee break]

CHAIRMAN BERNANKE. Why don't we reconvene, have a brief summary of our go-round, and then I will make just a few additional comments. The participants noted that the economic downturn has intensified sharply recently with significant downside risks to the outlook. Recessionary dynamics have set in, with interplays among real and financial variables. The economy is likely to contract through early next year, with considerable uncertainty about subsequent developments. Consumption, employment, and production indicators have weakened further. Financial conditions remain very strained, with improvement in some areas, but many the same or worse. The global economy has also slowed markedly.

Looking more specifically at different sectors, credit conditions continue to tighten, with credit lines not being renewed and banks, including smaller banks, hunkering down. Securitization markets are still largely dysfunctional. The overall deleveraging process continues to be a powerful drag on activity. Delinquencies are increasing, implying greater credit losses for banks and other lenders, with small businesses being among the borrowers facing tighter conditions. Banks continue to face intense balance sheet pressures and are reluctant to lend or make markets, and feedback effects from worsening credit quality to the balance sheets of financial institutions are evident.

Regarding the consumer, spending continues to contract, as households face ongoing pressures with respect to wealth, income, credit availability, and job security. Psychology is very

negative, and luxury and discretionary expenditures are being cut back. Labor market developments have been negative as well, with accelerating job losses and participation finally declining after remaining high for a period of time. The latest housing numbers suggest a continued contraction in that sector. The fall in mortgage rates has sparked some refinancing and purchase mortgage applications, but the longer-term impact on housing demand is not yet evident. Nonresidential construction is projected to fall significantly, reflecting poor fundamentals and tight credit. Federal fiscal policy will likely provide aid to states, including funds for infrastructure, but the size and the timing of the economic impact of that policy remain uncertain.

Manufacturing production continues to slow, along with new orders, capital spending, and business expectations; mining and drilling activities have been reacting to the decline in commodity prices, as has agricultural activity to some extent. Export demand has weakened with the sharp slowing in the global economy of recent months and the strengthening of the dollar since the summer. The sharp global slowdown, including emerging markets, will make recovery more difficult. Manufacturing surveys show that firms expect considerable near-term weakness and declining pricing power.

Finally, inflation looks set to decline significantly, reflecting falling commodity prices, rising slack, limited pricing power, and falling inflation expectations. Participants cited the risk that inflation could fall below desired levels. That is just a very quick summary. Any comments?

Let me make just a few additional comments, but I won't add, I think, a great deal of insight to our discussion. I will just note for the record here that the NBER has finally recognized that a recession began in December 2007. I said in the Christmas tree lighting

ceremony that they also recognized that Christmas was on December 25 last year. [Laughter]

The Committee was a little more forward-thinking. We began cutting rates, of course, in September 2007 and did 100 basis points of cuts in January 2008.

Despite our efforts, this recession, in terms of duration and depth, is likely to be equal to or greater than the two largest previous postwar recessions, those in 1974-75 and 1981-82.

There are a number of reasons that may be the case, and some of them were already discussed by the staff. The financial conditions are the most obvious difference between this recession and the earlier ones. A number of previous recessions have had financial headwinds of one type or another. For example, the current financial crisis and housing correction bear some family relationship to the stock market decline and the capital overhang in the 2001 recession. But overall, the financial aspects of this episode are, I think, much more serious than in previous cases. To cite two aspects: One, as Governor Warsh noted, there has been a big impact on household wealth. The flow of funds accounts show a decline in nominal wealth of about 11 percent in the last year or, as he said, a decline in real wealth of about 15 percent. This is going to lead to an increase in saving, which would be desirable in the longer term but in the short term is going to create dislocation. Two, this financial crisis has affected the intermediation of credit far more severely than any other episode since the 1930s. We have already seen a big impact on intermediary capital and bank activity. The deleveraging process is continuing. It is very intense. Again, reduced risk-taking, deleveraging, all of those things are not necessarily bad, but the adjustment process is a very difficult one.

A second reason that this recession could well be more severe than the previous ones has to do with the cyclical position of monetary policy, a fact also noted by the staff. The 1974-75 and 1981-82 recessions were basically generated by a tightening of monetary policy, and when

the Federal Reserve decided to let up, essentially conditions began to rebound. Obviously, in this case, other factors have driven the downturn. Monetary policy was proactive in trying to promote recovery. But given where we are today, at the zero lower bound, we are unable to ease policy in the way that we saw in those previous episodes. This suggests, as others have noted, the need for additional policy actions, either on our part or by the fiscal authorities, to get the economy moving again.

Finally, a third reason that I think this episode is particularly severe is the global nature of the downturn, which a number of people have also noted. It has always been said that, if the United States sneezes, the rest of the world catches cold. So there has always been a certain amount of coherence or synchronicity between U.S. downturns and those around the world. But the extent of the global downturn this time is really quite exceptional. It is striking that global growth over the past few years has been between 4 and 5 percent, and now the Greenbook is looking at a 1.6 percent decline for global activity in the fourth quarter and a decline of about 0.6 percent in the first quarter. That is quite a big difference between what we might think of as potential and actual growth.

So, as I said, there are a number of reasons to think that this is going to be a very severe episode and that we are far from being at the turning point. I won't go through the sectors. We have all discussed consumption, employment, housing, commercial real estate, and financial markets. These are all aspects of the downturn that continue to be exceptional and very worrisome as we look forward.

I will make just a couple of comments about inflation or disinflation. The forecast is for significant disinflation—perhaps not deflation, although deflation is easily within the standard errors of the forecast. A number of factors may affect this forecast or create risks on both sides.

Stephanie talked about structural unemployment perhaps being a factor that might make the effect of slack less than otherwise. On the other hand, there may be some evidence that the Phillips curve is steeper when unemployment is high—that is, recessions tend to have a greater impact on inflation than do small changes in growth. That only goes to say that there is a lot of uncertainty about exactly how far the inflation rate will fall. Although we might reach a technical deflation, I guess it is worth pointing out here that there is nothing special about zero. That is, from this point on, any further disinflation will have the effects of making a given nominal interest rate a higher real interest rate. It is making monetary policy de facto tighter and perhaps having debt deflation effects as the real value of debts and debt payments becomes greater as inflation falls. Because we are already at the zero lower bound, obviously that constraint is already in play. So I think we shouldn't focus too much or focus the public too much on the deflation line, on that zero number. It is not all that consequential. Rather, the disinflation process—and a very low rate of inflation—is a source of concern.

Just to summarize, I don't think my outlook differs very significantly from what I have heard around the table. I think the issues are what we do about it, and in that spirit, we should turn now to the policy round. So let me turn to Brian to introduce the monetary policy alternatives.

MR. MADIGAN.⁴ Thank you, Mr. Chairman. I will be referring to the package labeled “Material for FOMC Briefing on Monetary Policy Alternatives.” This package includes the October policy statement, draft policy statements for this meeting, and associated draft directives to the Desk. Alternatives A and B have been revised somewhat relative to the versions that were distributed in the Bluebook, partly reflecting yesterday's discussion. In addition, as shown in bold in paragraph 1 of alternative A, it seemed appropriate in current circumstances to incorporate a sentence on financial conditions, as the Committee has done in its recent statements; the same sentence has also been included in alternative B. We have presented a total of four policy alternatives for your consideration. Given the unusual circumstances,

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

the statements associated with all four alternatives depart to some degree from the statements that have typically been issued by the Committee in recent years.

Alternative A represents the sharpest departure. Rather than starting with the policy action, the statement would begin by describing the economic situation, noting that the economic outlook has weakened further. It goes on to say that inflation pressures have diminished quickly and that inflation could decline for a time below the rates that best foster economic growth and price stability. Reflecting what seemed to be a consensus yesterday, the sentence in brackets articulating a medium-term inflation objective has been dropped. We have also bracketed the clause indicating that inflation could drop for a time to very low levels, partly because some Committee members might not yet be convinced that such an outcome is a serious risk at this time and to avoid raising such concerns prematurely.

The third paragraph would indicate that the Committee judges that it is not useful to set a specific target for the funds rate. It would explain that judgment by noting that, as a result of the large volume of reserves provided through liquidity programs, the federal funds rate has already declined to very low levels. It would also note that economic conditions are likely to warrant exceptionally low levels of the federal funds rate for some time, avoiding the use of the “near zero” phrase. The clause “weak economic conditions are likely to warrant” implies some conditionality, but the conditions under which rates would be raised are not spelled out.

The fourth paragraph would set out a general plan for implementing unconventional policy to support the functioning of financial markets and stimulate the economy. It reiterates that the Federal Reserve will be buying agency debt and mortgage-backed securities and indicates that those purchases could be ramped up if conditions warrant. It indicates further that the FOMC is evaluating the potential benefits of buying longer-term Treasuries. It also indicates that the Federal Reserve will be considering other ways of using its balance sheet to support credit markets and economic activity. We suggested dropping the word “actively” to avoid a suggestion that a new facility will be announced imminently.

Over recent months, the discount rate has moved in lockstep with the target federal funds rate, at a level $\frac{1}{4}$ percentage point above that rate, and very recently the rates on required and excess reserves have been set essentially by formula equal to the target federal funds rate. Because a target federal funds rate would not be established under this alternative, those formulas could not be used. We have suggested that, under this alternative, the Board act to lower the discount rate 75 basis points, to $\frac{1}{2}$ percent, and that the interest rates on required and excess reserve balances be reduced to $\frac{1}{4}$ percent. The positive interest rates on reserves would maintain some upward pressure, albeit perhaps modest, on the federal funds rate, consistent with a view that there are some costs in terms of financial market performance of driving the funds rate literally to zero. The discount rate of $\frac{1}{2}$ percent would maintain a fairly small penalty for borrowing at the window.

In certain substantive respects, alternative B, the next page, is similar to alternative A. Most important, federal funds would trade at about the same very low rates as in alternative A, partly because the discount and reserves interest rates, discussed in paragraph 5, would be set at the same levels as in alternative A. Also, the wording of the rationale section of the statement—paragraphs 2 and 3—is essentially identical to the corresponding paragraphs for alternative A. However, alternative B differs from alternative A by explicitly setting a target range for the federal funds rate of 0 to $\frac{1}{4}$ percent, as shown in paragraph 1. We have restructured the introduction to the discussion of unconventional policy measures in paragraph 5 so that it is generally similar to the corresponding paragraph in alternative A. Also, the final sentence of alternative A, paragraph 4, has been substituted as the last sentence of alternative B, paragraph 5.

Both alternatives A and B would put the Committee clearly in the realm of unconventional policymaking going forward. The various policy interest rates would be reduced to very low levels, several unconventional policy tools will already have been implemented, and the statements would indicate clearly that further unconventional tools could be deployed. The Committee might choose either of these alternatives if members had an outlook similar to that of the Greenbook or if they were especially concerned about the downside risks. Both alternatives would constitute somewhat more vigorous policy action than market participants anticipate for this meeting, and accordingly it is possible that financial markets would respond favorably. On the other hand, there is some risk that confidence could be undermined if the main message that comes through is that the Federal Reserve is out of ammunition. As was noted yesterday, such alternatives place a premium on Fed communications that convincingly indicate that the Federal Reserve can still provide monetary stimulus.

Under alternative C, on the next page, the Committee would reduce the federal funds target rate 50 basis points today. The Committee might choose this option if it agreed that further monetary stimulus is warranted by the evolving economic outlook but was unsure that it would be necessary, or desirable, to reduce the target federal funds rate to around zero. The rationale for the action presented in paragraphs 2 and 3 would be fairly similar to those of alternatives A and B. Paragraph 4 notes the downside risks to the outlook and indicates that the Committee will use all available tools to promote its dual objectives, suggesting that the Committee will consider further reductions in the target federal funds rate and that further liquidity measures could be forthcoming. You could fine-tune the message regarding the federal funds rate by explicitly indicating that you are willing to or not willing to cut the funds rate further. Under this alternative, we have assumed that the discount rate would be lowered in line with the target federal funds rate to 75 basis points; the draft included in the Bluebook erroneously indicated that the rate would be lowered to 50 basis points. Because the FOMC would set a target rate under this alternative, we have assumed that the reserves interest rates would continue to be set via the existing formulas, so that those rates would move down to $\frac{1}{2}$ percent absent further changes to the target funds rate. As Bill noted yesterday, although these interest rates on

reserves would provide some upward pressure on the funds rate, that pressure is likely to be more than offset by the large supply of reserves, and paragraph 7 notes that federal funds are likely to trade below $\frac{1}{2}$ percent. Although this approach provides a straightforward expectation for the funds rate, it has an unappealing aspect in that the Committee would be changing its target while simultaneously admitting that the target will not be hit, implicitly raising the question of the meaning of the target. Nonetheless, this statement is likely consistent overall with market expectations, and a pronounced market reaction one way or the other seems unlikely.

Under alternative D, the Committee would keep the target federal funds rate at 1 percent. The rationale portion of the statement would acknowledge that the near-term outlook has deteriorated and that significant downside risks are present. However, the statement would note that the broad range of policy actions taken in recent months should help, over time, to improve credit conditions and support a return to moderate growth. The statement would recognize that the federal funds rate would likely average significantly below the target for some time, but it would not imply that a further reduction of the target rate is being contemplated. It thus suggests that the Committee would seek to return the actual federal funds rate to 1 percent over time. Overall, this statement would surprise market participants considerably, both in terms of the decision regarding the target funds rate and in suggesting that further monetary policy stimulus, through conventional or unconventional policy, is unlikely.

The final two pages of the package provide draft directives to the Desk that incorporate some changes relative to the versions that were included in the Bluebook. The directive for alternative A would provide some quantitative guidance for the Desk's open market operations while reserving some role for an assessment of evolving market conditions, specifically the language that "the Committee directs the Desk to purchase GSE debt and agency-guaranteed MBS, with the aim of providing support to the mortgage and housing markets. The timing and pace of these purchases should depend on conditions in the markets for such securities and on a broader assessment of conditions in primary mortgage markets and the housing sector. By the end of the second quarter of next year, the Desk is expected to purchase up to \$100 billion in housing-related GSE debt and up to \$500 billion in agency-guaranteed MBS." The directive would not specify a target range for the federal funds rate, while that for alternative B would. The directive for alternative A would state explicitly that the Committee has suspended setting a target for the federal funds rate and that it expects federal funds to trade at exceptionally low levels. The directive for B establishes the fed funds range of 0 to $\frac{1}{4}$ percent. In line with one of the points raised yesterday, that the size and the composition of our entire balance sheet affect the Federal Reserve's monetary policy stance, the final sentence of the revised directives for alternatives A and B states an expectation that the SOMA Manager and the Committee's Secretary will keep the Committee informed of ongoing developments regarding the System's balance sheet that could affect the attainment over time of the Committee's objectives of maximum employment and price stability.

The directive for alternative C, on the next page, is generally similar to that for alternative B. But it would acknowledge that federal funds are likely to trade below the $\frac{1}{2}$ percent target rate set under this alternative. The directive for alternative D would include a similar recognition but with a target federal funds rate of 1 percent. In addition, this alternative would not provide specific guidance on open market purchases. Thank you, Mr. Chairman.

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

MR. LACKER. Thank you, Mr. Chairman. Brian, the first sentence in alternative B says, “The Federal Open Market Committee decided today to establish a target range for the federal funds rate of 0 to $\frac{1}{4}$ percent.” In the staff analysis of various options for implementing interest on excess reserves, I think option 4 was the one that is closest to the reality of what we are implementing now—just a straight interest rate on excess reserves and an overprovision of reserves to drive it down to the floor. In that analysis, the staff anticipated that it would be a floor, which it turned out not to be. But it anticipated that, with that floor in place, the effective funds rate would generally be above the floor, and it envisioned choosing a rate on excess reserves $\frac{1}{4}$ point below our target rate. So do you envision in this that we would have to take any measures if suddenly the downward forces on the effective rate would bring the funds rate above $\frac{1}{4}$? Or is this just under the supposition that it would take a while and that it is unlikely to get above $\frac{1}{4}$? You see, back in the early analysis there were forces that you believed would lead it above $\frac{1}{4}$, so I am wondering how you are thinking about it.

MR. MADIGAN. President Lacker, the forces that we were thinking would bring it above $\frac{1}{4}$ were largely a risk premium—the difference between federal funds, which have some amount of credit risk, and deposits at the Federal Reserve, which of course do not. I think we would not anticipate that we would need to do anything very different from what we have been doing—just continue to provide a very large amount of reserves, which is a byproduct of our

liquidity provisions. With the interest rate on balances set at $\frac{1}{4}$ percent, that configuration of balances and rates would result in a federal funds rate somewhere in the range of 0 to $\frac{1}{4}$.

MR. LACKER. Okay. Well, the reason I ask is that I am a little hesitant to set an upper bound on a range without understanding what sort of mechanism we would have for making that credible. That is why I asked about that. Two more questions. One, the word “zero”—can you help me understand the thinking about why we should be a little averse to using that word?

MR. MADIGAN. Well, one reason might be that, if you gave some weight to the view that very low interest rates do have costs in financial markets and you wanted to preserve some rhetorical or substantive leeway, you would want to have a somewhat positive interest rate, to the degree that you could achieve one, but still a low level.

MR. LACKER. Okay. One final question. We, in the late 1970s, adopted a set of guidelines regarding agency debt and modified that in the late 1990s. I don't have a copy with me. I think the latest adoption of that was January 2003, and I believe it is permanent. I think it is still in effect. I think it states that our purchases are not intended to channel funds to any specific sector. I am wondering about the staff's interpretation of the consistency between our GSE debt and agency-guaranteed MBS purchases, and that guidance.

MR. MADIGAN. I do have that guideline here, and you are correct, President Lacker. The first paragraph of the guideline says that System open market operations in agency issues are an integral part of open market operations, designed to influence bank reserves, money market conditions, and monetary aggregates. The second paragraph says that open market operations in those issues are not designed to support individual sectors of the market or to channel funds into issues of particular agencies. As you remembered, in my briefing yesterday I did raise the question as to Committee members' views of the allocation of funds to particular firms or

sectors. It is possible that the Committee may want to modify, suspend, or repeal this guideline at some point.

MR. LACKER. They do seem inconsistent, though, and I think it is something, Mr. Chairman, that we ought to consider.

CHAIRMAN BERNANKE. Noted. I think I am somewhat at fault here. I did consult with everyone on the Committee and discussed what we were going to do. I would say that, going forward, we should probably bring all such plans to the Committee.

MR. LACKER. Thanks. It would be good to have that public. It is a public document, is it not? Or it is not a public document yet. It is on the Committee records, right?

MR. MADIGAN. I believe it is public.

MR. LACKER. Okay. It would be nice to have that in conformance with what we are actually doing. Thank you, Mr. Chairman. I appreciate that.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. May I ask two questions, please? With regard to alternative A, I am curious, Brian, as to how you think the bankers would respond to that in terms of their pricing behavior and loans and prime. Second, our friend from the New York Desk, how do you think the markets might respond to alternative A—not overnight, by the way, which I couldn't care less about, but over the longer term.

MR. MADIGAN. On the former, just a guess, I would think that without any target federal funds rate—and given the well-known issues that we have been discussing about pressures on banks—it is possible that the prime rate would not be reduced by the full extent of the implicit reduction in the money market conditions that the FOMC would be targeting. But I don't really have a good sense as to what would happen quantitatively.

MR. DUDLEY. I think the market will be slightly confused, but I think they will figure it out quite quickly. They will scan the document and figure out, well, what does this really mean? They will be surprised by the magnitude of the interest rate reduction. As I said yesterday, most of the dealers are clustered around a 50 basis point reduction in the target.

MR. FISHER. Even though we are not stating a specific target, it would be implicit in the change in the level of the discount rate.

MR. DUDLEY. We are saying here that we are at exceptionally low levels of the funds rate for some time. I think they will understand that this is it and that the funds rate is going to be very, very low. Obviously, the next day you will probably observe a federal funds rate that is no more than a couple of basis points, would be my guess.

MR. FISHER. Thank you.

CHAIRMAN BERNANKE. President Plosser.

MR. PLOSSER. Just a follow-up on that. I am a little confused that we don't set a target but we are operating under an interest on reserves scheme by which we pay a deposit rate, which in fact we just lowered. Is there some kind of disconnect between what is in alternative A, paragraph 5—lowering the discount rate and the interest rates on reserves—and not noting a change in the target rate when, in fact, we have already established that the deposit rate is going to be the target rate. So I am confused. Maybe the markets will see through this, but I don't know. I am not quite sure I understand what is going on and how this would work, in terms of communications or interpretations.

MR. DUDLEY. I think the markets would look at this as saying it is a substantial rate cut. The funds rate has been trading soft to the interest rate on excess reserves by a considerable margin. The interest rate on excess reserves was cut considerably, so they will figure out that,

therefore, the funds rate is going to trade at an exceptionally low level. But you are right—it will not be quite as straightforward as putting it out there right up front.

MR. PLOSSER. I guess my trouble is that the Committee judged that it is not useful to set a specific target for the funds rate and yet this will be interpreted as that we reduced the target in effect.

CHAIRMAN BERNANKE. We can discuss this in the go-round. President Evans.

MR. EVANS. May I just ask Bill Dudley if he could describe how he anticipates his operations would differ between alternative A and alternative B? How would you do things differently?

MR. DUDLEY. I think we wouldn't do things differently to any meaningful degree.

CHAIRMAN BERNANKE. Other questions? I think it might be helpful to flag just a few things about which I would particularly appreciate the Committee's advice. The first is the issue that President Plosser was discussing, which is alternative A—not specifying a range or a target—or alternative B—specifying a range. I think that the argument for specifying a range is that it seems a little clearer. If you look at, for example, the Japanese experience, even when they were in quantitative easing, they still had a target for the call rate, as I understand it. There are some counter-arguments, which Governor Duke and others have raised, about the impact on banks and so on. That is question number 1. Question number 2—and this doesn't preclude other points, of course—is that in paragraph 3 of alternative B, for example, we have bracketed just for your reference the risk of inflation's declining below optimal levels. I would be interested to know your views on whether or not to include that bracketed phrase.

Third—again looking at alternative B—in paragraph 4 we have the conditional statement that “weak economic conditions are likely to warrant exceptionally low levels of the federal

funds rate.” A little informal polling suggested that people were sort of okay with this way of stating the conditionality. But if there are any concerns about that or, alternatively, if you would like to include a reference to disinflation as one of the conditions, that is just something I want to flag as a question.

A fourth and final point I want to flag—and President Yellen pointed this out to me—in paragraph 5 we have a sentence saying that “the Committee is also evaluating the potential benefits of purchasing longer-term Treasury securities.” I think to put that in there we should feel that sometime in the next few meetings there is a significant chance that we would in fact engage in some kind of a program. We don’t want to put it in there if it is a complete red herring.

So those are four points that I have, but of course, you may have other questions or issues that you want to raise. Governor Duke.

MS. DUKE. Mr. Chairman, just one response to President Lacker’s and President Plosser’s observations, which I think are related. If you set the rate that we are going to pay for interest on reserves the same as the target rate for fed funds and the market does repair itself and resume, then you would expect there to be some risk spread over the rate that we are paying on interest on reserves. So if we don’t set a target or we set the target something higher than the rate that we are paying, at least if the markets do start to resume, then the Desk isn’t in a position of then having to try to drive the rate back down again.

CHAIRMAN BERNANKE. Thank you. All right. Let’s begin the go-round. We’ll begin with President Rosengren.

MR. ROSENGREN. The bleak outlook calls for aggressive action. With the effective federal funds rate already well below our target, there is a logic to moving to the floor at this

meeting and redirecting attention to nontraditional policies. Thus, I am comfortable with alternative B and would reduce the interest rates on required and excess reserves to 25 basis points.

In terms of the questions that the Chairman just posed, I am comfortable specifying the range of 0 to $\frac{1}{4}$ percent. I would actually keep the bracketed information. I am okay with the conditionality. I would remove the reference to the Treasury securities, and for the future I would certainly want to think about expanding the purchase of GSE and agency mortgage-backed securities beyond \$600 billion. Also I would support, at a future date, setting a target of 2 percent for the core PCE inflation rate.

CHAIRMAN BERNANKE. Thank you. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. I support alternative A, so let me just talk for a few minutes about what I like about it. I like the language “not useful to set a specific target for the federal funds rate” in alternative A because I think this will begin the process of getting the private sector to think in alternative terms about monetary policy. That would be similar to the moves made during the 1979-82 period. Let me just stress that I think the whole process is going to be very difficult. We have an entire generation of private-sector financial market participants who are conditioned to think only in terms of a federal funds rate target as the whole definition of what monetary policy is. I might remind the Committee—if it needs reminding, and it probably doesn’t—that it is a big country out there. When you start talking to others outside the particular participants in financial markets, the level of understanding of monetary policy is very limited. The subtleties get lost, and so it is going to take a lot of time and effort to convince everyone and to explain to everyone that we are switching to new policies. I expect, in fact, that it will probably be a three-year period that will be marked by controversy

over headlines that are of the form, “What is the Fed doing?”—much like the 1979-82 period, when there was continuing controversy and continuing efforts to explain.

I also like the paragraph that places emphasis on alternative policies. I would keep the bracketed information. I thought the conditionality was okay. I will say about the alternative policies, those policies have unknown impact, and so we don’t want to be too detailed here because they may have to evolve in the future. I would take out the part about the longer-term Treasury securities.

I would put in the inflation target. I said before that I think it is an important point to be able to reassure and anchor expectations in this very fluid situation, which may rapidly unravel on us. This is a good opportunity to do this, and I would go ahead with that. I don’t think it is that different from our longer-term projections, but it is much more direct and communicates much more clearly to markets that we have a medium-term inflation target.

On the question of what should be in the directive, I will say this: I see it as somewhat dangerous for this Committee and for the nation to say nothing about the level of reserves or the monetary base. It is true that it may not be inflationary now or in normal times, and it may not have been inflationary in Japan. But there are many examples around the world where money supplies got out of control and inflation was a very serious problem. It could be explosive in some parts of the world, especially if there were a large loss of confidence in the U.S. government or in the performance of this Committee. So I think we want to reassure the world that we are carefully monitoring that situation, that we have our eye on it. As several people have commented around here, a common refrain among business leaders we talk to is, “What the hell is going on? You know, your balance sheet is way up. Isn’t that going to be inflationary?” And we are saying “no,” but I think we need to give continual reassurance that we are

monitoring that situation, we have it under control, and we are thinking about it. I also think, as President Stern said yesterday, that it would help signal our intention to keep inflation near target, other than simply promising to do so, which is just pure reliance on our credibility. You have something quantitative that you can point to. Obviously, it has to be done in a sensible way that allows us to bring in other programs and expand the balance sheet in other ways. I think it is just a matter of making a statement that we are keeping our eye on the whole situation.

As far as the other alternatives, let me disparage them for a minute. [Laughter] I don't know—we haven't gone all around the table here—but I don't want to be naming targets that we don't intend to hit. So I don't want to say that we have a target but we are not actually going to do it. If we are going to do that, then we have to change the language somehow that whatever the number that we are naming is not really a target. Okay? I would be very averse to doing anything like that.

In alternative B, the first sentence states a target range for the federal funds rate. My feeling about this is that effectively, in the big picture, no one will read past that first sentence. They will just say, "Oh, yes, the Fed lowered interest rates." The idea that we are switching to some new regime or that markets have to start thinking in alternative ways about monetary policy is going to be lost. If you wanted to put a more aggressive spin on this, this is the do-nothing option. The effective federal funds rate is near zero anyway, so this is just saying, "Well, this is business as usual. We are going to sit on our hands. We are constrained by the zero bound, and we are not going to really change anything." So I see it as important to get the markets off this, and I see alternative A as one way to do that. But maybe you all will convince me otherwise. Thank you.

CHAIRMAN BERNANKE. Thank you. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. Given the dismal state of the economy, and with the funds rate averaging around $\frac{1}{8}$ percent anyway, I don't see any reason to wait to bring the fed funds rate down to effectively zero. I agree with the staff analysis that any dislocation of the money funds is likely to be minor. My board put in for a 75 basis point cut in the discount rate. When I looked over at my small bankers, I was afraid one of them was going to throw a shoe at me. [Laughter] I escaped that.

CHAIRMAN BERNANKE. That is going around. [Laughter]

MR. LACKER. So I support alternative A. I think it makes sense to deemphasize the funds rate target. For reasons that were illuminated by Brian earlier and reasons that Governor Duke alluded to as well, I don't think a target range is useful. We don't want to discourage hope among our community bankers that we might get above $\frac{1}{4}$ percent should conditions normalize to some degree. We do set an interest rate on excess reserve balances, or more precisely, the Committee's reduction in the federal funds rate target reduces the rate on excess reserves, given the Board's adopted formula for setting the excess reserves rate. We have a similar sort of governance disconnect between the discount rate approval decisions of the Board of Governors and the federal funds rate decisions taken by the Federal Open Market Committee. We have managed to coordinate those very effectively, with cohesion and with consensus. It seems to me to make sense to take the same approach to the excess reserves rate.

I like the language in alternative A, paragraph 3, where we abandon the target and indicate that the funds rate is likely to be near zero for a while. The conditionality, the way it is expressed there or in B4, is fine with me. I like the idea of shifting attention to the interest rate on reserves by including the statement in the related actions sentence of A5; that further cements the governance coordination that we have in mind there.

I think it makes eminent sense to be very explicit very soon about our numerical objective for inflation. Monetary policy at the zero bound is all about discouraging expectations of deflation. If we haven't tried first announcing an explicit objective for inflation, we don't have any excuses if we fail to prevent a fall into a deflationary equilibrium. But I am sympathetic to the notion that it might not be best to slip it in the statement in the dead of night without any fanfare. It might encourage the view that it is a temporary expedient and that we might abandon this language in some future statement, should we find it convenient. I think it would be better to do this and issue a separate statement very clearly articulating that the Committee has adopted a numerical inflation objective, here is what it means, here is how we interpret it, and here is why we do it. Perhaps January would be the right time to do that, and we could, between now and then, lay the groundwork for a clearer and more forceful communication. I think it is likely to have a bigger effect on financial market participants and the public should we do so. Without that statement about an objective, the sentence that precedes it—specifically the phrase that is in brackets in A2—is a little scary. So I would prefer to leave that bracketed thing out if we are not going to include the inflation objective.

The fourth paragraph in alternative A and the corresponding paragraphs in B and C discuss how we are going to conduct monetary policy while the funds rate is at zero. I think they are intended to signal a shift toward quantitative measures, but I found the language ambiguous and confusing. None says anything about the monetary base. None says anything about the size of our balance sheet. In other words, they don't indicate that the credit programs wouldn't be sterilized. I think the phrase "use our balance sheet" is ambiguous. It doesn't necessarily mean expand the size; it could mean put some stuff on it. So I would like to see us find a way to

improve the clarity of the language in paragraph 4 regarding the quantitative measures that I think it is intended to communicate.

That paragraph also mentions two programs: the agency debt purchases, which we talked about earlier—let me set that aside—and the TALF, which the Committee has not been asked to formally consider and approve. Now, I can appreciate the strict constructionist governance view of who gets to approve them; it is not important that we vote on them. But I have been thinking about this in terms of the ideal—the vision you portrayed and described for us yesterday of a cohesive consensus-building decisionmaking process. I compared the TALF and what the Committee has heard about it. Contrast that with the deliberations we gave to the extension of foreign exchange swap lines to emerging-market countries. There were fairly extensive briefing memorandums provided to the Committee, and there was a fairly lengthy discussion of that step. In contrast, we were basically informed about the TALF rather than consulted in any meaningful sense.

Part of the problem here is that this paragraph conflates the use of our balance sheet with expansions of the base, and these are two distinct policy actions. In the current circumstance, unsterilized lending does increase the base. But we have been doing these programs since before that was true, and the distinction doesn't come through clearly in the language here. There is a tension here because a couple of different plausible theories are floating around about how this stuff affects the economy and our objectives and how things are going to work at the zero bound. I am not sure that we are going to settle on a single theory. In fact, I am sure that we are not going to settle on a single theory. But we should strive, in the interest of consensus, for a statement that encompasses a range of plausible views. We have done that in the past in

finessing things like different views of the Phillips curve and the like, and I would urge us to try to do that here rather than take a monolithic approach.

Finally, let me say something about the directive. The new drafts of A, B, and C add a sentence, the operative words of which are “keep the Committee informed,” and it is that the Secretary and the System Open Market Account Manager would keep the Committee informed. This is somewhat short of the language you used yesterday, which admittedly might not be appropriate for the directive. But I wrote the language down, and it is that the Board would bring programs to the FOMC for review and discussion. I like the sentence that is added in the sense that it is a step in the right direction toward your vision of a collaborative body seeking consensus on these issues. But I am afraid that this language won’t do much to dispel questions that have arisen in the press about our governance cohesion and decisionmaking. So I personally would prefer to go as far as we could in that direction. Thank you very much, Mr. Chairman.

CHAIRMAN BERNANKE. Jeff, I just want to make a couple of comments. A very small one is that, in an early draft, instead of saying “entail the use of the Federal Reserve’s balance sheet” we had “entail increasing the size of the Federal Reserve’s balance sheet.” We thought that might not be appropriate because things go on and off.

MR. LACKER. Other things pull it down.

CHAIRMAN BERNANKE. Right. We were probably going to do that as a trend, maybe not day to day, but it has some of the flavor of increasing the base. So that is one just observation. On the TALF, we have added a presentation today from Bill Dudley and Pat Parkinson.

MR. LACKER. Excellent. Thank you.

CHAIRMAN BERNANKE. Finally, on the directive, there is a bit of a difference, which is that I do think we need to bring new programs, et cetera, for your information, as I said before. But this is actually a stronger statement in that it also means that we should report to you on the ongoing implications of existing programs for the base and for the balance sheet. So there is a bit of a difference in those two concepts.

MR. LACKER. Thank you. Mr. Chairman, I do like the “increase” statement, and I think we could easily explain that we are looking at a partial differential effect.

CHAIRMAN BERNANKE. All right. One possibility is “entail increasing the size.” There is some risk there, but I think that would be the general trend that we are considering. Others can comment.

MR. DUDLEY. I think the real issue is what happens to the CPFF, what happens to the swap programs, and the take-up of the TAF. Those are the three big elements, and they conceivably could run down in the first quarter.

CHAIRMAN BERNANKE. You could say “increasing over time the size” or something like that.

MR. DUDLEY. Or “likely to.”

CHAIRMAN BERNANKE. Yes. That was the reason we switched.

MR. LACKER. The statement doesn’t have to stand for the whole first quarter, does it?

MR. DUDLEY. No. But I think the issue is that, because we have open facilities, we just can’t guarantee what their take-up is going to be relative to what they are today. The swap lines are roughly \$600 billion; those could come down.

MR. LACKER. Well, each facility makes the balance sheet bigger than it otherwise would be.

MR. ROSENGREN. A lot of these could go down quite substantially if conditions improve, and we wouldn't control that.

CHAIRMAN BERNANKE. Right. That was the concern we had—that it wouldn't necessarily be a monotonic increase, that it could have ups and downs depending on usage and so on.

MR. LACKER. Well, I have in mind here the confusion that some around this table have reported hearing from the public about what we are doing with our balance sheet. I think acknowledging that it is expanding in size would be an important feature.

CHAIRMAN BERNANKE. All right. Well, we can hear from others about that as well. President Evans.

MR. EVANS. Thank you, Mr. Chairman. I certainly agree that more accommodation is needed. We need to take actions to provide, as best we can, the quantitative easing equivalent of the optimal control path as discussed in the briefing. I am not sure ultimately how feasible that will be, but it is a good goal for us over the next few months.

Now, in terms of the differences between alternative A and alternative B, as I understood Bill Dudley, there is no operational difference in these two options. It really comes down to how we want to communicate with ourselves and also the public. I tend to favor alternative B, certainly for now, and maybe alternative A later. After all, if the funds rate is going to go to zero in reality, then alternative A might be the right language. But we will have time to see that. This is a reasonable sequencing. The action today that we are dropping the funds rate target range 75 to 100 basis points is big, and certainly that will be the first thing that they see in the first line. I think they will continue reading. The language on the conditionality about the funds rate being exceptionally low is certainly okay today. The language says, "The Committee anticipates that

weak economic conditions are likely to warrant.” I guess there is some question as to whether or not we should include the dual mandate here—that disinflationary forces are also part of that. I could go with the consensus there, but I would just raise that as a question.

Regarding the bracketed risk that inflation could decline for a time below optimal rates—the rates that we think are best—back in 2003 this is what got a tremendous amount of attention. That is another reason that, as people read further, it could have a very large effect. It seems to be accurate. One way to deal with that would be to allow the minutes to capture that discussion, at least this time, and perhaps to put it in next time. It depends on the accumulation of how many of these large noteworthy developments we want in the statement here. I would be even more comfortable if that type of statement were accompanied by a context such as that we would be seeking conditions of inflation being around 2 percent. I realize that this may not be the ideal time to include that without a more extended discussion. But I would be okay with the bracketed information, if that is the consensus.

I think we should probably omit the Treasury purchases if we don’t think that we are going to do that by March. Certainly, omitting it today is low cost. Given all the information, it is probably overload.

I am okay with the language in the directive. Accompanying the language is all of the discussion about the collaboration that we have between the Board and the Committee generally, and so I have a very good feeling about that. I think that it will tend to evolve as this goes on, whether or not it is maximum thresholds or just changing the composition of all of this. So those are my preferences. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Kohn.

MR. KOHN. Thank you, Mr. Chairman. Like the others who have spoken before me, I think this situation is very serious. We need to do all we can, and I think we need to recognize the reality of where we are. So either alternative A or alternative B does that to a significant extent. I guess I have a slight preference for alternative A as a better recognition that we are not really controlling the federal funds rate in here. We have these other balance sheet things going on, and to me alternative B has a little of the flavor of drawing your target around the hole we have already made in the barn door, or whatever, and pretending that you have some control that you don't really have. So I think A is better. President Bullard made a very good point that A tends to refocus attention on these alternative policies that we all agree will be the focus of our attention going forward. But I could live with either A or B.

In terms of some of the issues you raised—so going down alternative A—in paragraph 2, the bracketed language, here I agree with President Lacker. I think my slight preference would be to wait until January to do this. Whether or not we have an explicit inflation target as we come out of the January meeting, we can debate in January. We will, I hope, have at least these long-run projections, and this bracketed language can be explained in terms of those long-run projections. Right now, it kind of sits out there. We haven't yet explained what we think the rates are that best foster economic growth and price stability in the longer term. By the end of the January meeting, we can do that. So I think I would wait for that.

I think the conditional language in the third paragraph is helpful, and I would favor keeping it in. It is appropriately conditioned on weak economic conditions. If other people wanted to add “the disinflationary forces,” which I think come primarily from the weak economic conditions, that would be okay with me, too. But I am fine with this.

In the first sentence of paragraph 4—this is a small point—I would take out the “to continue”: “The focus of policy going forward will be to support the functioning . . .” When I first read the “to continue,” it sounded as though we are just going to continue what we are doing now. So I would take that out, but that is a small point. On the discussion about whether we should put the size in, I am a little worried about putting it in because the balance sheet has grown so rapidly. If it came down because year-end pressures abated and because the swaps with all of those foreign central banks might tend to come down after the end of the year, I don’t think that the Committee would necessarily want Bill to be replacing every dollar of Eurodollar swaps that came down with something else. I think we are talking about a long-run trend in the base, and we need to be careful about not trying to leave the impression that in every intermeeting period we would expect the base to increase, especially when we don’t control that size. So I would be a little cautious about that. Certainly, if we did include “increase the size of the balance sheet,” I also would say something about the composition. In my view, it is actually the composition more than the size that is going to influence relative asset prices, even though I do recognize that over very long periods, if we keep the base from declining, it would be hard to have prices decline. But I am not sure that is really an effective way to deal with expectations in the short or intermediate run.

I would include the purchases of longer-term Treasury securities. Among other things, I think we ought to do it sometime in the next few months. The fact that you have already talked about it, if we omit it—I guess I disagree with President Evans here—I don’t think that will be low cost. We have a series of things we are doing, and that is not part of it. I think there could be an adverse market reaction. Going back to the base for a second, I agree that we need to do a better job of explaining, as I said yesterday, what this new framework is, how the increase in

reserves and the base fits into it—if we can come to some conclusion on that—and why under these circumstances a very large increase in the base isn't inflationary and how that comes about. We need to do a much better job of explaining these kinds of things. But, again, I would be hesitant to put an explicit target in terms of the level of reserves or the base in there because I don't really understand the channels through which they influence prices or activity in the short and intermediate terms.

Finally, on bank profits and the effects there, ordinarily I wouldn't worry about bank profits. It is just a transfer between the owners of banks and households and businesses, and quite frankly, transferring some income to households and businesses seems like a pretty good idea most of the time in these circumstances. I agree that it is more ambiguous than usual, given the worries about the financial sector. Still, we are doing a lot for the banks. We are giving them capital. We are guaranteeing their liabilities—we, the government, that is. This will reduce the rates at which they borrow from the discount window and from each other, so they are getting something there. I think banks are going to need to figure out how to operate at these really low interest rates, so I wouldn't let my concern about bank profits stop me from doing either alternative A or alternative B. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you.

MR. LACKER. Mr. Chairman?

CHAIRMAN BERNANKE. Yes.

MR. LACKER. Just a thought in response to Governor Kohn's comments: Would the phrase "add to" do a better job than "increase the size of" in conveying the sense that these programs are going to make the balance sheet bigger than it otherwise would be, rather than lead to an absolute increase in the size of the balance sheet?

MR. KOHN. I am not sure those words help me, actually. “Add to” sounds the same as “increase” to me. I have missed the subtlety here.

MR. LACKER. Other things held constant.

MR. KOHN. *Ceteris paribus*. We could put that in there.

CHAIRMAN BERNANKE. It is already Greek anyway. [Laughter] President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. My preference is to move in this meeting to the consensus lower-bound range for the funds target, and I prefer the range of 0 to 25. So I believe either alternative A or alternative B will work as serviceable options, and I can live with either one. But I actually lean toward alternative B. I think it is the clearest, and with the inclusion of the language related to deflation, it is also internally more consistent. In particular, my preference is to indicate that the FOMC intends to keep the policy rate low until economic and credit conditions improve, and I think it is appropriate to emphasize that our policies will be calibrated based on longer-term inflation objectives.

As I said yesterday, I am thinking that the conditionality language could be stronger. Specifically, I have in mind something along the lines of a statement that reads that “the Committee intends to maintain this range for the federal funds rate until such time that it judges conditions are present for material and sustained improvements in financial market functioning and economic growth, and the Committee believes that this policy course is consistent with its medium-term price stability objective.” I think that kind of language could fit at the beginning of paragraph 4, around that area, in alternative B. I think that is stronger than the implicit conditionality that is already in the statement. In my rounds of contacts before the meeting, one conversation did resonate with me. It was a call from a financial market participant for hearing

what the plan is and what the strategy is and affirming that there is a plan. I think stronger conditionality language would respond to that need in the marketplace.

As regards the questions, I think I have already covered some of them. I would prefer the specifying of a range in alternative B. I would lean toward including the language “and sees some risk that inflation could decline” because it ties in with the “all available tools” language at the beginning of paragraph 4. In other words, I think, if we include that language in paragraph 3, we are setting up a risk and the “employ all available tools” responds strongly to that risk.

Regarding the inclusion of the long-term Treasury securities, I am persuaded by Governor Kohn’s comment that we should include it. It is consistent with whatever public discussion we have had to date, including your speech of two weeks ago. So that is all. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Yellen.

MS. YELLEN. Thank you, Mr. Chairman. I think, at the end of the day, alternatives A and B really amount to the same thing in terms of policy. So I could live with either, but on communication grounds, my own strong preference would be for B. I think it is important at this juncture for the FOMC to state very clearly what it wants the federal funds rate to be, that we want it to remain close to zero, and I think we best do that by specifying explicitly a rate or, as it is, a range. Both A and B eliminate the gap we have had between the target and the reality of where the funds rate is actually trading, but B eliminates that gap by embracing the current reality as desirable.

In contrast, it seems to me that A is saying that the Committee is all but helpless to affect the funds rate, so, after all, it would be a charade to set a target. Then it kind of acknowledges, well, but, you know, the funds rate trading near zero is really not such a bad thing, given the

weakness in the economy. I think we have greater command over the funds rate's destiny than alternative A suggests. If the Board and the FOMC really wanted to push the effective funds rate up above zero, say to 50 or to 100 basis points, the Board could choose to raise the rates paid on reserves and the discount rate, and we could get it up, even though we have all of this enormous quantity of excess reserves and even though interest on reserves isn't working in quite the way we expected. I agree that it would be a bit odd to be setting the interest on reserves and discount rates above our target for the federal funds rate. But it seems to me it could be done, and we are not powerless to accomplish it. So I don't like the suggestion that we are just helpless to move the funds rate. I think we should say that we don't want to move the funds rate up. I don't want it to trade above the 0 to 25 basis point errange. I certainly don't want that. I think the forecast is grim. I think we should go as low as we can as fast as we can without harming the functioning of money markets, so keeping the funds rate trading in the 0 to 25 range is desirable. If it were to be the case, following President Lacker's earlier question, that we suddenly saw the interest on reserves floor working better and fed funds started trading above 25—the funds rate could, for example, move up to 50 or so—I would hope that the Board would actually lower the interest rate paid on reserves to hold the funds rate in the 0 to 25 range. So I think we should go down and do it decisively in one step today.

On the other matters, in alternative B, paragraph 3, I favor including the bracketed language suggesting that we expect and are not happy to see inflation declining below levels we consider consistent with price stability. I agree with President Evans on the merits of doing that. I like the forward-looking language from A that has been added in bold to B concerning the odds that we will keep the funds rate low for some time. On the Treasuries, I am worried about making an announcement or giving a hint that we are not going to follow through on them pretty

quickly. I am personally in favor of and support buying longer-term Treasuries, and I haven't heard a lot of opposition to it. If we really are going to do it and do it pretty soon, I have no problem with including language to that effect. But I don't think we should throw a hint out there unless we intend to follow through. With respect to the wording of the directive, I am happy with it. With respect to the issue about the monetary base and increasing the size of our balance sheet, I would endorse Governor Kohn's remarks on that topic.

CHAIRMAN BERNANKE. Thank you. President Hoenig.

MR. HOENIG. Thank you, Mr. Chairman. If we were still working with the framework of targeting the fed funds rate, I would prefer D, and I would accept C, and I would vote accordingly. But I think what I've heard in the past two days is that we have really abandoned that framework, and this is kind of a ratification of that. I think that our framework now is actually in A and B in the statement that we are going to "expand its purchases . . . as conditions warrant." If that's the case, then going with A, in which you don't set a fed funds rate or talk about it, is probably preferred.

I also think that we're now in a credit policy type of framework, and it bothers me. I have a lot of sympathy for what Presidents Lacker and Bullard said. I would prefer, rather than a statement that says "as conditions warrant," that we have some kind of a monetary base criterion for the future. This is something that we ought to think about. At the same time, I do not think that we should have inflation below optimal in this statement. I don't think we're there, and, at this point, I think it should not be hinted at.

I think that "purchasing longer-term Treasury securities" goes with the conditionality statement anyway. We'll do what it takes, and if it takes purchasing longer-term Treasuries, that's it. That is what we have unless we go back and look at a new framework that we need to get out

and talk about with the public, and I hope that as our meetings and our discussions progress, we begin to focus on that. Thank you.

CHAIRMAN BERNANKE. Again, as I said yesterday, this is a work in progress.

MR. HOENIG. I agree.

CHAIRMAN BERNANKE. We'll keep working on it. I didn't quite get your proposal. Do you propose leaving in the sentence about Treasuries at this meeting?

MR. HOENIG. If we're going to have statements that say we're going to purchase mortgage-backed securities as conditions warrant, I don't think "purchasing longer-term Treasury securities" is a much different step from that, so we can leave it in.

CHAIRMAN BERNANKE. Okay. President Pianalto.

MS. PIANALTO. Thank you, Mr. Chairman. Obviously, for us to counteract the powerful forces that are weakening our economy and financial markets, we should provide maximum monetary policy stimulus as quickly as possible, and conducting monetary policy on the basis of a fed funds rate target is no longer the best strategy. I do think it is time and it would be helpful to begin focusing the public's attention on the unconventional approach to monetary policy, and I think alternative A does a better job of doing that.

What I like about alternative A is its straightforward characterization of the policy situation and how we plan to respond to it. I support leaving in the language that is bracketed in alternative A, paragraph 2, about the risk that inflation could decline for some time below rates that best foster economic growth and price stability. The reason I say that is that we have been using the language that the Committee expects inflation to moderate for some time now, and given the discussion, I think we expect that situation to be getting worse. So I would support leaving that in. I would also leave in paragraph 3 the more forward-looking language about keeping the low level of the fed

funds rate for some time. I also would keep in the language on the potential benefits of purchasing longer-term Treasury securities. I assume that the minutes that are released in three weeks are going to say that we discussed it and that we will be evaluating it. So I would just leave it in. Also, given the dire economic outlook that we are talking about and the aggressive response that we think monetary policy should take, I think just saying merely that we stand ready to expand the purchase of agency debt and mortgage-backed securities isn't aggressive enough. I do realize that there are a lot of important questions that are left unanswered, such as determining the mix of assets to purchase and how to know when enough is enough, and then how to shrink our balance sheet when the time comes. But I do think that adopting alternative A is taking a big step in the direction of giving the public some indication of what we plan to do.

Finally, I know you just said that we will come up with some language and some framework around what we are doing. But as discussed in yesterday's conversation, having some talking points even in the near term so that we are consistent in our language on what we are doing would be helpful. At a time when there is a lot of confusion out there and markets are as fragile as they are, having us all talk about this in the same way would be helpful. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Stern.

MR. STERN. Thank you, Mr. Chairman. Well, as several people have observed—and I agree—I don't think there's any significant policy difference between A and B. That's certainly where I am. From a communication point of view, I have a mild preference for B. I think it's a little clearer on the margin and would be helpful in that regard. So I would work off B as to some of the issues and suggestions that have been raised.

With regard to the first issue, I would not include the information in brackets in paragraph 3 at this point. I think Governor Kohn made a good point that we're likely to be much better

positioned to do that in January in conjunction with the SEP and the longer-term projections. Let me be clear. I am in favor of inflation targeting, but I think exactly how and when we get to that is important. So I wouldn't want to do that simply in a casual way and do it too rapidly.

As I look at paragraph 3, I have a couple of other questions. The first sentence says that “inflationary pressures have diminished quickly,” which is certainly true, but I think it may be more important that they have diminished appreciably. So I would just make that point. I might also say, rather than “the Committee expects inflation to moderate in coming quarters,” which I think is probably true, that you might just say “the Committee expects modest inflation in coming quarters.” The reason I'm putting it that way is that I'm trying to get out of this point precisely about whether it is or isn't going to run below what we think might be consistent with the dual objectives.

I think the conditionality in paragraph 4 is fine. If there's a good way to strengthen it, doing so would also be fine with me. But trying to modify these things on the fly is always difficult. Finally, I would include the thought about purchasing longer-term Treasuries. I think we should, and because I think we should, I think we should say that. So I guess that covers the topics I want to cover.

CHAIRMAN BERNANKE. Thank you. Maybe I should ask Bill. Do you see any purely operational issues in the next few months if we decide to purchase longer-term Treasuries?

MR. DUDLEY. We can do it, but we're under a strain. As long as we don't start until sometime in January, I think we could manage, as long as you don't ask us to do it every day.

CHAIRMAN BERNANKE. We won't.

MR. KROZNER. Every other day?

MR. DUDLEY. How about once every couple of weeks?

CHAIRMAN BERNANKE. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. These are, indeed, troubling times, and I think in troubling times it's even more important that we be as transparent and clear as possible. I think it's time that we publicly convey that we have entered a new monetary policy regime. To do otherwise perpetuates the view that we are no longer in control of monetary policy rather than that we have opted to implement policy through a different means, particularly our balance sheet.

There's ample room for judgment here and disagreement, but, Mr. Chairman, with all due respect, I'm deeply troubled by elements of the steps that we are taking today. In effect, I interpret our proposed actions as substituting credit-allocation policies for monetary policies. Both the expansion of our balance sheet and the fed funds rate are now determined or will be now determined by decisions about which markets or firms are deemed worthy of our intervention and support and some assessment of how much money we want to throw at them. I think we all agree that we are looking for the best policies. I think that it's also true that best policies are based on clearly articulated goals and objectives and in credible and systematic actions to achieve those goals and objectives, and they can also be credibly communicated to the public. I feel that our approach to credit policy comes up lacking in each of these dimensions. Our goal may be to prevent systemic risk, but we haven't clearly defined what that is or the criteria that we're using to decide whom to lend to and when to lend to them. It's very important for both clarity and transparency that we rectify this deficiency, or we may continue to create moral hazard and to see market after market after market seek our help.

The message from the literature we discussed yesterday is that near the zero bound our credibility and our commitment to generate inflation and prevent expectations of deflation to develop are paramount. My reading of the proposed language is that it does little to signal that commitment. Indeed, it seems to suggest that our primary objectives are and will continue to be

credit interventions. Confusing our monetary policy objectives with our credit policies is not the kind of message that I'm comfortable with. I think we need to be careful not to convey to the market that monetary policy has become ineffective, and I don't think anyone at this table wishes to do that.

President Lacker articulated the importance in the current environment of keeping inflation expectations well anchored, and measures of the base—or if you would rather, look at the asset side of the balance sheet, either way they're both measuring the balance sheet—are a means of anchoring those expectations. I don't think the language of the directive or the statement is clear enough in addressing either the effectiveness of monetary policy or the credible commitment to avoid deflation or even to maintain inflation near our target, which is clearly not deflation. I'm not quite as fearful of deflation as President Bullard or some others, but I think we need to be mindful and reinforce our commitment to low but stable inflation.

On the governance side, I continue to believe that the FOMC is the appropriate body for making monetary policy decisions and that replacing monetary policy with credit policies that are unconstrained by this Committee is to violate both good governance and the spirit of the operating understanding of the FOMC. Yesterday and in my memo to the Committee earlier this week, I argued that the directive and the statement should clearly state that we are in a new regime and should articulate how that new regime will operate going forward. My interpretation is that the proposed language, particularly alternative A, does help indicate that we are moving to a new regime. That's important, and therefore, I lean in that direction. But that language fails to articulate how that new regime will operate, except to say that the Board of Governors will continue credit market interventions. It says nothing about the terms and strategies that we'll employ to do so. The implicit message is—and I think the market will clearly interpret it this way—that the FOMC has

ceded monetary policy decisions to the Board of Governors, and I think that will be damaging. Such a step, in my view, is not good policy, nor is it good governance, and it may have political ramifications as well. Once the Committee sets the precedent that the Board of Governors can assume sole responsibility for monetary policy, we run the risk of losing the strength and the diversity of views that the System has always brought.

My sense is that this Committee's setting some kind of cap on the size of the balance sheet was an effort to clarify the role of monetary policy in contrast to credit policy. I think the reaction I heard yesterday around the table was a litany of reasons why setting base growth targets is not appropriate. While that might be an interesting debate to have, that was not the point I was proposing. I was requesting that we have a debt ceiling, if you will, and that the FOMC would review and adjust that debt ceiling as it deemed appropriate—not targets for balance sheets per se. Such a debt ceiling would not prevent the Board of Governors from managing the asset side of the balance sheet via 13(3) lending. Only when unsterilized lending exceeded the debt ceiling might formal approval be required from the FOMC. Mr. Chairman, my discomfort is not a matter simply of good governance. It is more fundamentally about the lack of clarity, discipline, and transparency that the strategy is offering, and I have deep concerns.

I'd like to offer a couple of suggestions for the Committee to consider about language, and I'm working off alternative A, which I think is probably the working hypothesis here. So to answer your questions, Mr. Chairman, I have been and continue to be in favor of an explicit inflation target. Most of you are aware of that. I am sympathetic to the view, as I think President Lacker said, that slipping it in in the dead of night is probably not the right way to go about it. I would add that I do not like the bracketed phrase regarding the Committee's seeing some risk of inflation coming in too low. As President Lacker suggested, it might cause fear in the marketplace. But I do think we

could change the second bracketed statement, which was struck out: “In support of its dual mandate, the Committee will seek . . . a rate of inflation . . . of about 2 percent.” I think we could change that and heighten the importance of inflation to us and our dual mandate by saying something to the effect of “in support of its dual mandate, the Committee will seek a low and stable inflation rate over the intermediate term.” That would be short of specifying an inflation target but would reinforce the notion that we are still committed to achieving a low but stable inflation rate.

My biggest problem is with paragraph 4, which I think could be simplified greatly. I would like to emphasize that monetary policy remains in the purview of the FOMC and that we have entered a new regime. So I would propose, just for the sake of getting it on the table, that paragraph 4 be simplified to say that “the focus of the FOMC’s monetary policy going forward will be to continue to support the dual mandate and the functioning of a financial market to stimulate the economy through open market operations and other measures that entail the use of the Federal Reserve’s balance sheet.” Then I would say, “Today the FOMC affirms the expansion of the Fed’s balance sheet up to \$3 trillion and will periodically review and adjust that in the pursuit of our dual mandate.” Repeating the litany of credit-market interventions that we have engaged in seems just repeating what we’ve already done. I’m not sure that serves much purpose in the context of monetary policy making at this point. I’m not opposed to buying GSEs. I’m not opposed to buying longer-term Treasuries. I think we need to modify Brian Madigan’s statement about the conditions under which we should purchase GSEs so that we are being internally consistent, but I don’t have any objection to it.

So I think we could be clearer. We could be less confusing in our policies by emphasizing again our commitment to keep inflation stable and at a positive level and clearly indicating that quantities do matter and that this Committee is responsible for those quantities and will interact with

the Board of Governors and our credit policies to see that we can achieve the goals that we all decide on. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Fisher.

MR. FISHER. Mr. Chairman, before I get started, I do think that President Plosser has raised good issues on the governance matter. I hope that we will continue to discuss this, bearing in mind that there may be changes in the composition of the governors with a new President and given the faith that we built up with the existing governors, so that we have to get at least our lines of understanding clear as we go through time. As to the alternatives that we face, the problem with the economy isn't the interbank lending rate or even the riskless rate. The problem with the economy and with the financial markets is that intermediation has broken down. I think our actions should forcefully be directed toward the clearing of blockages in the financial plumbing and not just fiddling with the faucet. It's the availability and distribution of credit that is problematic.

In that sense I like alternative A. In fact, President Stern, I like its ambiguity, and I'll tell you why. I am quite worried that stating zero to 25 basis points will bring down upon us the wrath of bankers. I do think it's important that community banks be profitable and that they be healthy. First Vice President Cumming pointed this out in her comments, and to me this alternative gives us substantial wiggle room, as it were, in its ambiguity. Vice Chairman Kohn pointed out that paragraph 5 is good for the bankers. Without stating a specific target fed funds rate, it allows them to price their loans according to how they see fit. That appears to be taking place anyway. There is a separation between the fed funds rate and the prime loan rate. So unless I'm missing something, bankers should positively interpret both paragraph 1 and paragraph 5 in terms of their operating leeway.

I would suggest that this is an important step forward in making clear the way we're going to operate henceforth. It does indicate a regime change, and as President Bullard pointed out, I think we have to be forceful in doing so. I could diddle with the language, but to be even more forceful I would transpose paragraph 4 and paragraph 3. That is, the first two paragraphs strike me as fine. At this juncture I would not put in an inflation target because I don't think we're prepared for it as a Committee. I'm comfortable leaving in paragraph 2 that we see some risk that inflation could decline below optimal rates for a time. After all, we just got the number that makes that very clear—minus 1.7 on the headline rate. But then I would go immediately into what our focus is going to be. I rather like President Plosser's one edit to make clear that it's the focus of the FOMC's policy. After we have laid that clear—and if, indeed, just parenthetically we are going to make some Treasury purchases, we should include that in there; if we are not, we should not—then in what would be paragraph 4, strike “in current circumstances” and say that “the Committee judged that it was not useful to set a specific target for the fed funds rate.” You're making it very clear that we have a regime change. As to the content of paragraph 4, assuming we are going to be purchasing longer-term Treasuries, I'd leave it as it is. Stay on message. Repeat it over and over and over again. You started with your speech in Austin, and that makes it operative. I have no problem with it, and I would urge it be included as written.

So my suggestions, in summary, are that we embrace alternative A; we transpose paragraphs 4 and 3; we take out the wording “in current circumstances” because obviously we're judging things in current circumstances; and we not include an inflation target at this juncture but do include the rest of the bracketed language in paragraph 2. I believe this is sellable to our bankers, and I believe it's a good way to proceed. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. First Vice President Cumming.

MS. CUMMING. Yes, thank you. Like others, I see the circumstances as requiring the most action we can take. Therefore, I would favor alternative A somewhat over alternative B, but I could live with either. I think that alternative A has the advantage, which President Bullard described and others have referred to, that it does signal a significant change in what we're doing and draws attention to it. If anything, it probably provokes more dialogue with us as a central bank, which I think at this point is a good thing.

Turning to the next paragraph, I'm a bit concerned that inflation is, in fact, moderating very quickly. This morning's number for the total CPI is 1.1 percent. That would lead me to ask whether we are expecting inflation to moderate or are, in fact, seeing inflation moderating. This point is similar to President Stern's. That would also lead me to leave in the bracketed point about the future and the concern there because I think it's better if we put it on the table than have people say, "Don't they see that as a problem?" To that end, I also want to endorse the kind of broad strategy statement that President Lockhart put forward. I actually came into the meeting with a very similar sentence from my staff, really talking about what our goal is. I think it does help to set the stage for what follows here, and this was a focus on improving conditions in financial markets or financial intermediation and ensuring a recovery in output and maintaining low inflation.

CHAIRMAN BERNANKE. I'm sorry. What was the beginning?

MS. CUMMING. I think that President Lockhart was proposing that it follow paragraph 2, perhaps in its own paragraph. We would raise the question of the risk of too low inflation but then have the next paragraph really speak to what our goals would be, and I thought the sentence that you had sounded good.

MR. LOCKHART. I can confuse the matter by saying that I was thinking of it in alternative B, and Ms. Cumming has it in alternative A. So somewhere in there.

MS. CUMMING. Then continuing with this, I would comment on the next paragraph. I'm very sympathetic to the idea that President Lacker was putting forward—that we somehow need to talk about our expectations about the size of the balance sheet. I was going to offer one suggestion: Perhaps for the “entail the use of” phrase in the first sentence of paragraph 4 we could substitute “sustain the size of the Federal Reserve’s balance sheet at very high levels”—something that would indicate that we expect the balance sheet to remain really large but doesn't talk about whether we're increasing it from today. Just a thought. I would leave in the sentence on the longer-term Treasuries in large part because we have already talked about it publicly and the language here gives us the opportunity to evaluate and does not necessarily commit us to those purchases in the future. In any case, we would need to explain whether or not we're going to purchase longer-term Treasuries, having raised it already.

On the directive, I would say that I am comfortable with the directives as written. There might be room, if we found the right language for the size of the balance sheet, for inserting that sentence in here, for example, whatever we take from the first sentence of paragraph 4. I also think that, as part of this monitoring that the System Open Market Account Manager and the Secretary will provide for the Committee, there really is the opportunity to develop much better disclosure of what the Committee is doing, what our balance sheet looks like, and what actions we're taking—some kind of ongoing monitoring that could be shared with the public that I think would also be very helpful in explaining what the Federal Reserve is actually pursuing in the near term and what it is doing with the balance sheet.

I was really impressed by something that President Lacker said yesterday, which is that—and I paraphrase—we are in uncharted waters but we are groping our way forward. I think that it is a great metaphor for where, in fact, we are. Some of these questions—such as what specific

forward-leaning language we'd like to put in our statement over time and how we think about the monetary base versus the credit policy type of actions that we're taking—are all things that I think we will continue to learn about and explore. What I had put forward is that, as we come to understand them better, we have an opportunity to communicate with the public and help them understand better what we are, in fact, doing. Thank you very much.

CHAIRMAN BERNANKE. Thank you. Governor Warsh.

MR. WARSH. Thank you, Mr. Chairman. As others have said, the choice among these alternatives, particularly A, B, and C, is not really a choice about the effective rate. It's a choice about our clarity, our conviction, and maybe most important, our readiness in announcing a new regime. As I described yesterday, I think the zero lower bound is not zero, and so there are risks particularly in these markets of going there or threatening to go there. So the balance of my suggestions and edits come from the zero phobia. [Laughter]

First let me talk about C briefly. Alternative C is a sort of way station. It is our last chance to describe the old regime and to pivot to a new regime, whether the new targeted rate was 25 or 50 basis points. But seeing that there doesn't seem to be much interest in that, I won't try to reconcile the music and lyrics of C, which announces a target and then says we're going to miss it; but I had a couple of suggestions to try to bring that together. So let me confine the balance of my remarks to the choice between A and B.

I think in alternative A we are all-in. It makes the new regime explicit. It is likely to be somewhat of a surprise to markets and puts a large burden on all of us—particularly you, Mr. Chairman—not only in the next few hours but really for the next days and weeks in describing with great rigor what the new regime is. I think we're up to that, but it is certainly a tall task at a time of great uncertainty in markets. The way I would try to make that task a little easier is through various

channels—suggesting that we are in some ways revealing the new target in paragraph 5 by suggesting that the implied effective target is 25 basis points, given what our change is on the discount rate and the interest rate on reserves. So that, I think, has a way of making the transition to the new regime less massive than it might be and reinforces my zero phobia point. I think that's one way in which the bold, new regime with a lot of explanation in the next few weeks can at least be not as scary to the markets in the next couple of days.

What about alternative B? If we were to go in that direction, I'd make one modest suggestion. In the first paragraph, I would insert the word "between"—so "the Federal Open Market Committee decided today to establish a target range for the federal funds rate between zero and ¼ percent"—to suggest that you're not going to be at that endpoint. Now, I'll admit that's not a massive change, but it makes me feel a bit better about my phobia and about how markets, banks, and others might react knowing that that is a point you do not want to cross. So a suggestion there.

Now, on your open question, setting a range in terms of the optimal level of inflation or not, I'm not crazy about a range. But if we have a range, I think it is scary, lurchy, to include it today, and so I wouldn't do it. Conditionality, I think, is fine. I don't feel strongly about our considering Treasury securities. I do like Governor Kohn's suggestion about deleting "to continue" because bold new regimes aren't continuations of what we've done. They're bold and new. So I think that's an important change by Governor Kohn. Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Kroszner.

MR. KROSZNER. Thank you very much. Obviously you have a bleak outlook. It's very important to act quickly and decisively, and I think it's clear from the discussion that our choice is between A and B. But as a number of people have mentioned, the economic substance is probably

nearly identical in alternatives A and B. Our exposition of it, though, can make a very big difference.

There are an enormous number of moving parts, and there is a lot to digest. We potentially have here, as I count them, seven new things that people have brought up. That's just an enormous amount to deal with, and I think some of them we want to delay. The inflation target is very important, but it brings up issues here, and I'm not sure that we want to talk about something like that now. So let me just quickly run through these.

We have to think about the dynamic of what we are going to say next time. What is this committing us to talk about? First, the rate cut is one very big issue—75 versus 50 basis points. Although some market participants think it will be 75, I think that will still be news, but I think it's very important for us to move there. Second, just moving to a range is something new; I think that is something that is actually quite newsworthy in and of itself. Going to no target at all is extremely newsworthy, maybe too newsworthy to include with all these other things. I think of this and the discussions that we've had as setting up an extremely valuable template for how we should be thinking about the statement and what we need to be explaining today as well as over the next few meetings. So I would actually say that, given all of the moving parts and all of the changes, talking about a range either “between” or “of” zero to $\frac{1}{4}$ percent would make a lot of sense. I don't think we're introducing any more ambiguity. I think we're introducing a bit of ambiguity especially for people who are not that well informed by saying that we don't have a target anymore. What President Yellen said was that it could easily be misinterpreted as “gosh, we don't really have control over these things anymore anyway.” I don't think any of us believes that, and I think there's more of a chance of that misinterpretation, which I don't want us to have, if we do that today with all the other changes than if we waited a little. I still think the range is a pretty big shift.

Expressing concerns about inflation being less than the level fostering economic growth—again, I think that’s something that I would prefer to wait on. I like President Stern’s edit about talking about the appreciable diminution of inflationary pressures, but I would wait on putting in the phrase about whether the level is too low to be consistent with fostering economic growth. I mentioned the inflation target. I think we should wait on that. We’re introducing conditionality, which I think is valuable to do, and I think the phrase there is fine. We’re talking about old and new programs as well as balance sheet issues. As a number of people have mentioned, we have already talked about standing ready to expand the purchases of agency securities as conditions warrant. So that’s forward leaning already. If we are committed to doing the Treasury securities fairly soon, I think we should just go along with that and feel comfortable with that. But we do have to think a bit about the precedent of making concrete new policies that we’ve generally talked about in this statement. Is it something that we want to do going forward? Does this commit us to doing that? I don’t think so, but I think we should just think about that.

Then I think it’s very important that we talk about the use of the balance sheet. I agree with Governor Warsh that to be bold you don’t say “continue to.” But we are talking about some existing programs, so in some sense we are continuing. I’m not quite sure exactly where we want to go on this, but I just wanted to raise that ambiguity. On the balance sheet, though, I go back to the Chairman’s remarks from yesterday. It is important to think about the composition of the balance sheet, not just the size in and of itself—Governor Kohn also made reference to this—so I would be very wary of focusing on the size here. I think that just talking about ways to use the balance sheet is the appropriate way to go now. If we have more experience and understand better how the size might evolve over time, how the different programs we have might fluctuate, I’d feel more comfortable with that. If we talk about the size or commitment to growth of that size or expecting it

to be large, just as a number of people said, it could suddenly shrink, and we don't want people to think that we're changing monetary policy because of that. Some of these things would just be changing over time. Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Duke.

MS. DUKE. Thank you, Mr. Chairman. I do favor alternative A. In terms of what will happen with the prime rate, I frankly don't know, but I think it will leave the banks to determine their own prime rate and floors as they wish. I would not minimize the fact that we are actually still setting a rate for the interest on excess reserves as well as the discount rate. This experience with interest on reserves is brand new for us, and I don't think we've had enough experience to know how it is actually going to work. It does leave room for the spread to establish itself as the fed funds market regenerates, and I think it gives us some room to have some experience with that regime. I think this communicates the regime change better than any of the other alternatives, and at the end of the day, this is a communication document. I would strongly echo President Pianalto's comments that, in this new regime, we really need to stay on the same page to avoid total confusion in the marketplace. I know that independence of thought is one of the strengths of this body, but if we could for a time set that aside at least in public and all speak from the same talking points, it would make all of our policies more effective.

In terms of the specifics of the statement, I would defer to another day the language in brackets in paragraph 2 of alternative A. The conditional language I would keep in. About the phrase "to continue" and really all of paragraph 4, to my mind, although we are continuing some of the things that the Board has done, it has not necessarily been clear that all of these have been considered by the FOMC. To me this takes everything we are doing and puts it in the middle of this table and gives us time to discuss which of them we like, what we might use or not use, and how we

might express the degree to which we would use all of these tools. We've made a lot of progress in a very short time in coming to the broad outlines of the things that we might do going forward, and in coming meetings we'll actually contour those more and make them more specific. I would include that as well. As to whether or not we "use" our balance sheet or "expand" our balance sheet, I would leave it at this point as "use our balance sheet" and have further discussion on that. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Boy, you've left me a simple task. Yes, a two-hander from President Fisher.

MR. FISHER. Mr. Chairman, I just want to come back to a point I suggested. Is there any sense in transposing paragraphs 3 and 4 to emphasize the new regime?

CHAIRMAN BERNANKE. Well, let me comment.

MR. FISHER. Yes, sir.

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. In light of our discussion of "use of" in this balance sheet quantitative, I was going to point out that President Plosser's suggestion about a specific number for an upper bound on the size of our balance sheet would remedy the problem that we were discussing there. In addition, it would greatly alleviate the deep discomfort I and perhaps others may have about our governance practices and the extent to which they're publicly known. I would also emphasize that there are two theories about the effect of our balance sheet and that this is written from the credit-spreads point of view, and it would be useful to encompass both.

CHAIRMAN BERNANKE. Let me just say, generally speaking, that we are making a lot of changes here. I'd like to suggest that we move gradually. But one suggestion I did like and would propose to see if it helps you is First Vice President Cumming's suggestion of saying that

we'll provide support with measures that sustain the size of the Federal Reserve balance sheet at a high level. That makes it very explicit. Later we can go further about quantitative guidelines and so forth, but for the moment we're saying that the balance sheet size itself is of importance.

MR. LACKER. Because the word "size" is a quantitative word, it does a lot better than "use of," which is ambiguous about sterilization. So to that extent I view First Vice President Cumming's suggestion as very positive.

CHAIRMAN BERNANKE. President Plosser, does that satisfy you for today?

MR. PLOSSER. Would you read that again, please? I'm sorry, Mr. Chairman. This is very difficult.

CHAIRMAN BERNANKE. Just for today, "the focus of policy going forward will be to support the functioning of financial markets and stimulate the economy through open market operations and other measures that sustain the size of the Federal Reserve's balance sheet at a high level."

MR. PLOSSER. I think it is the focus of the FOMC's monetary policy.

CHAIRMAN BERNANKE. The focus of the Committee's policy.

MR. PLOSSER. Of the Committee's policy—fine.

CHAIRMAN BERNANKE. Is that okay?

MR. PLOSSER. Yes, much improved.

CHAIRMAN BERNANKE. All right. So in the spirit of trying to move gradually and not just overwhelm the market, I would like, as I say, to move halfway to where we want to be. There was a slight majority in favor of alternative A, but I'm very concerned that, if we don't say anything about the funds rate, there is just going to be confusion. I am also concerned about the view that President Yellen, Governor Kroszner, and others raised if we sort of say that we're not targeting it

anymore. It suggests that we're indifferent to the rate or that we have no ability to raise it. What does it mean to say that rates will be kept low for a long time, if we don't have some view on that? Again, I would cite the Japanese precedent. I understand the concerns about community banks. I do think that's not a reason that should control our policy, and they certainly can change their pricing policy. So let me make some suggestions. Brian, will someone take notes? Then we can come back. In order to be conservative and avoid risk, I would like to propose alternative B. In the first paragraph, I would take Governor Warsh's suggestion and say "target range for the federal funds rate between 0 and ¼ percent."

MR. LACKER. I'm sorry. Say that again.

CHAIRMAN BERNANKE. "Target range for the federal funds rate of between 0 and ¼ percent."

MR. LACKER. "Of between"?

CHAIRMAN BERNANKE. Oh, sorry. Not "of between" but "a target for the federal funds rate between 0 and ¼ percent."

MR. LACKER. So the target is between.

MR. KOHN. A target or a target range?

CHAIRMAN BERNANKE. Target range.

MR. LACKER. Target range is between.

CHAIRMAN BERNANKE. "The target range for the federal funds rate between 0 and ¼ percent."

MR. LACKER. So the target range is to be between those two numbers.

CHAIRMAN BERNANKE. All right. Okay. Scratch it. Paragraph 1 is the same. That's simple. Paragraph 2 is the same, including the additional sentence about financial markets, no

longer bolded. Paragraph 3, President Stern was right about “quickly.” Why don’t we say “appreciably”? Now, a lot of people have talked about inflation targets. I think we should look at that very seriously. Today is not the day to do it. Maybe that should be introduced simultaneously with concerns about deflation. I propose that we strike the bracketed material but put the word “further” after “moderate”: “The Committee expects inflation to moderate further in coming quarters.” The fourth paragraph as is—most people were okay with the conditionality there. In the fifth paragraph, strike “continue to”: “The focus of the Committee’s policy going forward will be to support the functioning of financial markets and stimulate the economy through open market operations and other measures that sustain the size of the Federal Reserve’s balance sheet at a high level.” You know, I get the sense from the Committee that they will entertain purchases of Treasury securities in the next quarter or so. In order not to jerk the market around too much, I think we should therefore mention it and leave it where it is. So the only change in paragraph 5 that I’m proposing is in the first sentence.

MR. KROZNER. So the last sentence will have “continue to” or not?

CHAIRMAN BERNANKE. Okay. Let’s see. Yes, I think it has to be there. “The Federal Reserve will continue to consider ways of using its balance sheet.” I think we have to say that because we have used it.

MS. DUKE. Would that say “the Committee”?

CHAIRMAN BERNANKE. Sorry?

MS. DUKE. Would that say the “Committee will” or “the Federal Reserve will”? Perhaps “the Committee will continue to consider ways to use the Federal Reserve balance sheet.”

CHAIRMAN BERNANKE. “The Committee will continue to consider ways of using the Federal Reserve’s balance sheet.” I think we should leave it where it is. Just leave it ambiguous for

now, if that's okay. So those are the changes. Brian, would you like just to read that? Are you able to read it that? Do you have the information?

MR. MADIGAN. Yes.

CHAIRMAN BERNANKE. Would you go ahead and read the thing?

MR. MADIGAN. "The Federal Open Market Committee decided today to establish a target range for the federal funds rate of 0 to ¼ percent. Since the Committee's last meeting, labor market conditions have deteriorated, and the available data indicate that consumer spending, business investment, and industrial production have declined. Financial markets remain quite strained and credit conditions tight. Overall, the outlook for economic activity has weakened further.

Meanwhile, inflationary pressures have diminished appreciably. In light of the declines in the prices of energy and other commodities and the weaker prospects for economic activity, the Committee expects inflation to moderate further in coming quarters.

The Federal Reserve will employ all available tools to promote the resumption of sustainable economic growth and to preserve price stability. In particular, the Committee anticipates that weak economic conditions are likely to warrant exceptionally low levels of the federal funds rate for some time.

The focus of the Committee's policy going forward will be to support the functioning of financial markets and stimulate the economy through open market operations and other measures that sustain the size of the Federal Reserve's balance sheet at a high level. As previously announced, over the next few quarters the Federal Reserve will purchase large quantities of agency debt and mortgage-backed securities to provide support to the mortgage and housing markets, and it stands ready to expand its purchases of agency debt and mortgage-backed securities as conditions warrant. The Committee is also evaluating the potential benefits of purchasing longer-term

Treasuries securities. Early next year, the Federal Reserve will also implement the term asset-backed securities loan facility to facilitate the extension of credit to households and small businesses. The Federal Reserve will continue to consider ways of using its balance sheet to further support credit markets and economic activity.”

CHAIRMAN BERNANKE. And then the related action. President Plosser.

MR. PLOSSER. This is a clarification, Mr. Chairman. I hate to be difficult, but in thinking about this as a step, we talked about an inflation target. What other steps do you see that we need to clarify as we try to make this process more—I’m looking for some forward-looking language here.

CHAIRMAN BERNANKE. Well, we need to talk about it. I think there are two promising directions. One is to have an inflation target or something close to an inflation target, depending on how the Committee decides, what we think is feasible, and so on. The other would be to develop a more formalized structure for discussing the integrated responsibilities we have with respect to the balance sheet, and that could involve quantitative ranges, for example. I didn’t quite like your ceiling because I think in some cases you might want to have a floor. But I don’t think, as I said yesterday, that we can describe our policies in a single number, and I don’t think that a target for the overall size of the balance sheet is a sufficient statistic for what we’re doing. But I do think that, for governance and other reasons, we can talk about ranges, consultation, and so on, about the size of the balance sheet. Okay? Again, I apologize that this is an imperfect document. Given the many moving parts, as I said, I wanted to try to keep it from being too overwhelming. This is going to be a big enough step as it is. Governor Kohn.

MR. KOHN. Just one further clarification. By sustaining the balance sheet at a high level, we’re not promising that it won’t fall from here, right? Just that it will be higher than it ordinarily would be.

CHAIRMAN BERNANKE. That it's going to be above \$800 billion for some time I would think is a fair statement. Does anyone else have a comment? Governor Warsh.

MR. WARSH. I apologize for the bad English that I offered before, but an alternative to the first sentence that you read that would, I think, be English to Jeff's fair point—it would be to delete the word “target.” So it says, “To establish a range for the federal funds rate between zero and $\frac{1}{4}$ percent.” So those are your two options.

MR. LACKER. But it's the same issue. “Range” is the noun, and you're saying that the range lies between those things, and you're not telling everyone what the range is.

CHAIRMAN BERNANKE. It would be a range of 0 to $\frac{1}{4}$ percent. I think that would be right.

PARTICIPANTS. Right.

MR. WARSH. Withdrawn.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. Mr. Chairman, I can't support that, and I'll tell you why. I do feel that we had an elegant solution in alternative A. I firmly believe that if we target 0 to 25 basis points—the effective funds rate we all know is trading at $\frac{1}{16}$ —it is going to create enormous backlash. It is unacceptable to me to say that the bankers will figure out how to deal with this. They can't. Second, as far as money market funds are concerned, the expense load is usually 30 basis points. So for whatever it is worth, I will be a minority of one, but I cannot support that. Alternative A was elegant in that it made no statement. Then, and I think very important, by dwelling on this business of what our target rate is, we diminish what we're doing, and what we're doing is changing things fundamentally, which I fully support.

So for whatever it's worth, I understand all the counter-arguments. Janet and I have talked about this. I know what people are going to say. I think (a) it is an unnecessary distraction, (b) it creates a potential political backlash, and (c) it is counterproductive. So I just want to state it myself straightforwardly and honestly—I may be the only person at this table, but I'll vote against that. If you give us alternative A, I'll vote for it. I know I'm one of 17 at this table—there are more than 17 people at this table. I apologize, but I don't think it's necessary to make the funds rate clear. It's implied in what we're doing, but alternative A gives people enough ambiguity to steer around it, and that's my opinion. I apologize.

CHAIRMAN BERNANKE. I think confusion is an extraordinarily dangerous thing for us.

MR. FISHER. The key is paragraph 4 in alternative A—that is what we're doing.

CHAIRMAN BERNANKE. No, I agree with that. What B says is that this is the end of one regime and the beginning of another. The first one says that this is the end, and then we say what are we doing going forward. I think that clarity is needed. If we did what you're suggesting, I don't know for sure what would happen, but I think there would be a lot of commentary and questions: "What are they saying? What do they mean?" That would be much more than what B does. I understand your point. I thought hard about it, and I know that there was a mixture of views. Governor Duke.

MS. DUKE. I'd like to ask one question just, again, about going forward. We talked about what you would do differently tomorrow under alternatives A and B and determined that it was nothing. What would you do going forward if federal funds started to trade above 25 basis points under alternative B?

MR. DUDLEY. Well, I guess we would stop doing reverse repos to signal our protesting of the fact that the fed funds rate is trading soft to its targets. That's the first thing we'd do. I have to

say that I think the probability of this happening is extremely remote because banks are balance sheet constrained and therefore aren't going to do that perfect arbitrage. Maybe in a normal world it would be possible to get fed funds to trade above the interest on excess reserves, but in this world it's just extraordinarily unlikely. But if it were to happen, we would signal our unhappiness with that, and the first thing we would do is we'd stop doing the reverses that we've been doing every day to protest the softness in the funds rate.

MS. DUKE. But you would be able to pull it back down.

MR. DUDLEY. I don't know how quickly we could pull it back down. Look. I don't think that this is going to happen under almost any conceivable circumstance, but if it were to happen, we would basically add reserves to protest what we're seeing. Time would pass. We'd have another FOMC meeting, and we would make an adjustment to the framework. But I think this is an extremely remote possibility.

CHAIRMAN BERNANKE. First Vice President Cumming.

MS. CUMMING. I think that, if we see the risk of institutional factors, like the way the prime rate is linked to rates, really getting in the way of good policy, we have an obligation to work with the banking community, work with other regulators if necessary, and work with the SEC if necessary to clear those institutional obstacles. So I wouldn't let the institutional things be something that gets in our way, rather they would be something that we can really help overcome where we see problems. That link could be changed, and we may want to work actively with the banking community to make sure that it happens.

CHAIRMAN BERNANKE. No, clearly the banks are not required to move their prime rate with anything in particular.

MR. FISHER. Of course. They can always have their markup, but you can also reverse the argument and say, so why do you want to cut rates? Again, I think we're pushing on a string here, Mr. Chairman. Forgive me for speaking, but the guts of what we're doing and the importance of what we're doing, which I fully support, are in paragraph 4, and I believe we're distracting from that by focusing on the fed funds rate.

CHAIRMAN BERNANKE. I agree with what you're saying about the important part, but it is nevertheless the case that—as President Yellen pointed out—if we wanted to, we could raise the funds rate if we put on enough pressure. Therefore, in an important sense a decision is being made here to end this particular policy approach and to move clearly to another one with the words “the focus of the Committee's policies going forward will be” and that is described in a lengthy paragraph. I am just so concerned about what will happen if we say we're not going to target it. What does that mean? Is it going to be 5 percent tomorrow? I just fear the confusion. President Hoenig.

MR. HOENIG. In terms of what we're going to be speaking about regarding the new regime, I think it was easier when we had alternative A and we were going to a new regime than when we're saying, “Well, okay, we're going to end this regime here.” I'm giving this speech; I get questions. We're going to end this regime, and we're going to go to this. So now I'm in the middle of a transition, and I'm trying to explain it, but other than, “Yes, we left this behind, and here we are going forward.” So that's my concern about the middle step here. I guess in your opinion it's easier to explain going from “Here's the old regime; we're going to stick to it for a little while longer and then . . .”

CHAIRMAN BERNANKE. No. Today is the end of the old regime. We have hit zero. We can't go further. Going forward, this is what we're going to do. I think that's clearer. Again,

I'm just concerned about not saying what we're doing with the funds rate. Are we going to let it do whatever it wants to do from today? I think that's just going to create volatility. Again, I'm sorry for those who are in disagreement.

MR. DUDLEY. For what it's worth, Mr. Chairman, I agree with you. I think the market will be more confused about alternative A than alternative B. If that's important, then that should be part of the decision.

MR. FISHER. But I asked you that during the question period.

MR. DUDLEY. I said substantively we're not going to conduct policy any differently, but the market will be more confused about A than about B in terms of having to process what this means. Now, it will get to the right answer eventually, but it will be more confused in terms of processing information, in my opinion.

MR. KROSZNER. I just want to underscore that, because that was my concern in moving toward B rather than A because I certainly agree that the economic substance is the same. But I do think there's much more of an opportunity for misinterpretation by the market, and for us to say that we don't have control of the fed funds rate is the main concern that I have with A. I think B is very clear. The idea of talking about a range, including zero, is something that at least as far as I know the Fed has never done before, and I think that's an enormous shift. That will be seen as a real shift. But to go to A would have ambiguity and would be very difficult to explain to people who are not real aficionados that we're not saying, "Gosh, we really don't have the opportunity to fix the federal funds rate anymore. That piece is broken."

MR. FISHER. I heard eleven people argue the case for alternative A. I counted them.

CHAIRMAN BERNANKE. Most of them said it was pretty close, and it's a matter of communication. It's my judgment that we are just going to cause a lot of criticism and a lot of

concern and confusion if we do it now. I also agree that it's fairly close. But my feeling is that the concern of clarity is more important to me. Others? Would you call the roll, please?

MR. MADIGAN. Mr. Chairman.

CHAIRMAN BERNANKE. Yes.

MR. MADIGAN. There is also the issue of the directive.

CHAIRMAN BERNANKE. The directive would stand as we've written it, with the additional sentence at the end?

MS. DANKER. Yes, that's right. The vote will encompass the statement as Brian Madigan read it and the draft directive for alternative B as was shown in the handout. Since it is longer this time and we are short of time, I won't read it.

Chairman Bernanke	Yes
First Vice President Cumming	Yes
Governor Duke	Yes
President Fisher	No
Governor Kohn	Yes
Governor Kroszner	Yes
President Pianalto	Yes
President Plosser	With some reluctance, I will vote yes.
President Stern	Yes
Governor Warsh	Yes

CHAIRMAN BERNANKE. Thank you. Could we bring lunch back? Would that work?

MS. DANKER. That doesn't usually work well in a recorded session.

CHAIRMAN BERNANKE. That doesn't work well? All right. Let's have half an hour for lunch.

MR. MADIGAN. The Board meeting, Mr. Chairman.

CHAIRMAN BERNANKE. The Board meeting is adjourned. Hold on. The Board will go into my office. Everyone else, lunch. We will take a half hour break, and then we have just a few short items afterwards to complete. Okay? Thank you.

[Lunch break]

CHAIRMAN BERNANKE. Let's reconvene briefly for a couple of other items. On consideration, in order to maintain a united front with the Committee, President Fisher changed his vote to vote "yes" on the resolution. We have two items. First, Governor Kohn is going to talk a bit about our longer-term projection, and then we would like just to hear a bit from Bill Dudley and Pat Parkinson about the TALF. We have had several previous briefings on this, but we will update this and talk a bit about its implications for balance sheet management. Governor Kohn.

MR. KOHN. Thank you, Mr. Chairman. You should have gotten memos from the Subcommittee on Communications having to do with the longer-term projections. In considering the trial run and also the current situation, in which the '09, '10, and '11 projections really weren't settling down and didn't look as though they would soon settle down into what would be consistent with where we would want things to be in the long term. In these circumstances, the subcommittee thought it would be a good idea to go ahead with a quarterly extension of the projections to give the public a better idea of where we thought output, growth, employment, and inflation were expected to be over the longer run.

We made four recommendations within that overall recommendation. We recommended that we do it quarterly, not just once a year, and that the discussion be integrated with the rest of the quarterly projection process in the Summary of Economic Projections. We also recommended that we continue to do this for total PCE inflation but, as we did in the trial run, not do it for core PCE to emphasize to the public that it was the total we were looking at over the long run and not the core. We thought that the questionnaire should ask each participant to provide "your best assessment of the rate to which each variable would converge over the longer

term (say, five to six years from now) in the absence of shocks and assuming appropriate monetary policy.” This would be something that didn’t emphasize the fact that it was five or six years but where things would settle down and it might take five or six years to settle down. So those are our recommendations. Did I miss anything—I’m looking at the subcommittee members?

After today’s and yesterday’s discussions, I think the subcommittee will also take another look at whether the Committee should move further in the direction of an inflation target and get some material to the Committee before the January meeting. I think we are not looking for a vote on this today, but if anybody has any views about whether this is the appropriate direction in which to go, I would like to hear them.

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. I think the subcommittee ought to consider whether, if the Committee adopts a 2 percent or whatever inflation objective, it might be more confusing than clarifying for us to also be issuing these long-range convergence projections. My first cut at thinking this through—I haven’t given this a lot of thought—is that, if we are going to say our target is X, I don’t see why we would even need these.

CHAIRMAN BERNANKE. This is why they need to look at it now because I think they really are substitutes.

MR. LACKER. Yes, I think they are substitutes.

MR. KOHN. You might still need the output and unemployment.

MR. LACKER. What for? We don’t control—well, you know that—sorry.

CHAIRMAN BERNANKE. Any other comments or questions?

MR. PLOSSER. I guess, given the zero lower bound issues that we have been discussing and some of the consequences of being there, the difficulty of dealing with policy in that environment, in previous meetings on this topic we have talked about the prospects of specifying the funds rate path or the range of the funds rate paths of Committee members and their projections. It was suggested earlier that, had we done that previously, we might be in a position to signal to the markets more about our commitment to inflation or something like that. So I guess what I'm saying, in the context of both inflation targeting and its projections, giving that a second round of thought, in terms of how it might fit in with that, would be useful under some circumstances.

CHAIRMAN BERNANKE. Okay. Anyone else? All right. Let me turn to Bill, who very kindly learned that he was on the program about fifteen hours ago.

MR. DUDLEY. It is better than the time I found out I had to discuss a Stiglitz paper in grad school about 12 hours ahead of time. That was harder. I read the Stiglitz paper three times, and then I started to understand it. [Laughter] What I thought I would do, if I could, is invert the order and start with the balance sheet issues and then go into the TALF because I think that there is a broader question of our exit from all our liquidity programs. That is a very legitimate issue. You can imagine a circumstance that sometime in the future we still have an inflated balance sheet, and we actually want to raise the federal funds rate target. The question is, Would we be able to do so?

The good news, of course, is that a lot of our facilities are going to go away pretty naturally—the swaps, the CPMF, and the TAF. We may have to give it a bit of a nudge, but those programs should downsize pretty automatically. Even after that, we are still going to have on our books a lot more agency debt and a lot more agency mortgage-backed securities. We're going to have loans outstanding that are associated with Bear Stearns and AIG. We are going to have longer-term Treasuries. We have potentially a very large funding obligation to Citigroup, if its losses go through the FDIC and TARP money. Then, of course, the TALF could also still be on our balance sheet, depending on what the terms of those TALF loans are. I am going to come back to that a little later.

Generally, I am not worried about our ability to raise the level of interest rates, even if our balance sheet is still inflated at the time, for a number of reasons. First, I think the interest rate on excess reserves does work, just not quite as well as we had

hoped. The gap between the interest on excess reserves and the effective funds rate has been running in the 40 to 50 basis point range. That means that, if we were to raise the interest rate on excess reserves, we would raise the whole complex of interest rates, including the effective fed funds rate. The gap is as large as it is because, when balance sheet capacity is scarce, people have to be paid to use their balance sheet to arbitrage that difference. But I think that gap today is pretty stable, and we can expect that, as the balance sheets return to a more normal condition, over time that gap might actually narrow as people say, “Well, gee, I have more balance sheet capacity to do this arbitrage.” So that would be point number 1.

Point number 2 is that we can probably take active steps that reduce the cost of that arbitrage to banks today. We can limit the GSEs in terms of their fed funds sales, and we can also reduce the balance sheet consequence of the arbitrage by potentially removing those purchases from the leverage ratio, giving them a little regulatory relief, which actually makes some sense because there is really no risk to a bank that is buying fed funds from another bank and putting them on deposit with the Fed. There is no interest rate risk overnight. So that is something that we might want to consider.

Another thing that I think is important to recognize is that there may be other means of addressing our excess reserves problems. The first point is that interest on excess reserves is probably good enough to do a reasonable, if somewhat sloppy, job in pushing up interest rates. In addition to that, we have other ways of addressing excess reserves in the system. We have the ability to change our monetary policy framework. We had a meeting earlier this year in which we discussed some of the potential places we might want to go. To drain excess reserves, if we decided that was necessary to get better control of the federal funds rate, we could do reverse repos with a broader set of counterparties, like money market mutual funds. We could do that using the agency debt on our balance sheet and using the Treasury debt on our balance sheet, and we could probably do that in size, since the money market funds would be very happy to be our counterparts.

Second, we could also change the monetary framework in a more radical way. One can imagine a system by which we set voluntary reserve targets for banks at pretty high levels, where the rate they got if they were above the target dropped off considerably and the rate they got below the target dropped off considerably. So we could basically give the banks incentives to hold the amount of their excess reserves that actually are in the banking system.

Third, the Treasury could help us, as it was helping us for a while. The SFP bills actually did work. The problem was that, as the Treasury’s borrowing needs skyrocketed, it started to worry about running into the debt limit. What actually happened—it was a political issue—it didn’t want to notify the Congress 60 days ahead of time that it might hit the debt limit, and that is really why it started backing away from the SFPs. Now, we could resolve this in a couple of different ways. One, if the debt limit were raised enough, you would have plenty of room. Or you could

potentially exempt the SFPs from the debt limit, and you could argue that doing so makes sense because there is debt here and there is cash on the Federal Reserve balance sheet, so no real net debt is created.

Last, you could gain legislative authority to issue Fed bills, which I think is actually a little more radical step. But the attractiveness of that, of course, is then we have complete control over our destiny, and you don't have the mushing together of church and state, where we are at least somewhat dependent on the Treasury for managing our monetary policy. So the bottom line for me is that I don't think we should be concerned about the large size of our balance sheet constraining our ability to manage our interest rate policy going forward. That should not be a driver of what we decide about our liquidity facilities.

So why is this important? Well, the TALF, just to recap, is a program in which we would basically lend funds against AAA-rated consumer asset-backed securities on a nonrecourse basis to basically anyone—not quite anyone, not foreigners, but pretty much anyone who wants to do it—and we would conduct these transactions through the dealer community. In the TALF program we would be offering three things to investors. First, they would be offered more leverage than they can get today because the haircuts that we would put on the securities would not be the 50 percent type of haircuts that the market is putting in place today. They might be 10 percent, 20 percent, or 30 percent. We are still negotiating, determining that. So investors could get a lot more leverage than they can get today. The second thing that would be offered is protection against tail risk, and that is something that investors very definitely can't get today. Because the loan would be nonrecourse, the investor could lose only the amount of the haircut, and that is really important in a world where prices are very volatile. So that would significantly reduce the mark-to-market risk of investing in the securities from the perspective of investors. Finally, probably the most important thing, we would be providing term funding. People could buy these securities, which are of relatively long duration. It depends on what security you are looking at, but the securities probably range in duration from two years to seven or eight years, if you are looking at student loans. So this facility would not work if the term were very, very short.

We have been in the process of going out and talking quite extensively to issuers and investors over the past couple of weeks. The Board staff has been involved. The New York Fed staff has been involved. Basically what we found out is that they like the program. The leverage is not quite as important as we thought. They said they could live with less leverage rather than more leverage. They like the protection against the tail risk. The nonrecourse nature of the loans, of course, is very attractive. But the main thing on which they focused and that they said was most important for the success of the program was the length of the term of the loans. When we went forward with the initial term sheet, we were talking about a one-year term, and the investors have come back quite forcefully and said that a one-year term is not sufficient. The program will not work with a one-year term. Now, maybe they are exaggerating the degree to which it wouldn't work, but it does seem fairly credible

that there is no reassurance that one year from now we are going to be completely out of the situation that we are in today. So, certainly, it is completely legitimate to be worried as an investor about the rollover risk one year from now, given that these are assets of longer durations.

Where I come out on all of this is that I think we really do need to be attentive to that concern, and we should try to make the term of the TALF loans as long as possible, subject to protecting the Fed, obviously, from credit losses. If we were to make it short term, I think there is a high probability that the program would fail. I think that would be a huge blow to our credibility. Up to now we have done pretty well in wheeling out programs that have done what we said they were going to do. I think this is a particularly important program because of its ability to be expanded in multiple directions. The Treasury is very, very interested in this program as a way of using TARP capital efficiently. So to wheel this out on terms that are too short and that make the program unattractive would be very, very damaging to our credibility. My view is that we should be willing to offer these loans at term. I would favor three years. I think if we do that, this program will be successful. Obviously, if we do that, we are going to have more balances on our books. This program was originally conceived of as about a \$200 billion program. That is probably as big as it would get for consumer ABS, but obviously, if we expand it to CMBS and other things, it could be considerably larger than that. So that is sort of where we are. Pat, do you have anything you want to add?

MR. PARKINSON. No, I don't think so. Again, I think the message, as Bill is saying, from the investors and the issuers was that a three-year term would greatly enhance the chances of success. Indeed, I think our friends in the Treasury Department, at least in the case of government-guaranteed loans, would like to go even longer than that. But both the Board staff and the New York staff thought that it would work best at three years.

MR. DUDLEY. Three years gets you far enough along that reasonable people will believe that three years from now you might actually be able to get private-sector financing for this stuff.

CHAIRMAN BERNANKE. I am going to need to consult on an informal basis with the other Board members on this. But in the spirit of our discussion yesterday, I invite questions or comments, which will inform our thinking on this as well. Does anyone have any questions or thoughts on this? President Lacker.

MR. LACKER. You said that investors who bought this and put this and got the lending would have the haircut at risk, right?

MR. DUDLEY. Yes.

MR. LACKER. They would get all of the upside?

MR. DUDLEY. Yes.

MR. LACKER. So if spreads close in the marketplace, then they get the upside—so we are essentially lending to them to make a leveraged bet on the securities.

MR. DUDLEY. The purpose of this facility is not to give investors profits. The purpose of this facility is to address the fact that lending spreads on AAA-rated securities are extremely wide right now and the securitization market is closed. The idea is that, if you offer more-attractive terms than those available in the market, the demand for these securities will increase, issuers will be able to sell these securities at better prices and lower spreads, and the consequences of that will be lower lending rates and improved credit availability to households. The goal at the end of the day is not to do anything for investors. The goal is to harness investors' profit motivation to drive down spreads in the AAA market.

MR. LACKER. I understand. Now, why are spreads high?

MR. DUDLEY. Our view is that spreads are high mainly because people can't get leverage—that is number 1. Number 2, the traditional buyers of these AAA-rated assets either have disappeared completely, like SIVs and bank conduits, or have balance sheet constraints. So the risk capital hasn't really been willing to come in because they can't get the financing to make it worth their while. You know, LIBOR plus 300 is not an attractive proposition for someone who is using capital on an unleveraged basis.

MR. LACKER. When I think about leverage and the demand for a given security, if I, as an investor, am going to make a leveraged purchase, then whoever is giving me a loan to make that is also taking a risk position in the security. So the demand that leveraged investors make is really a joint demand by them and the lenders. Everything you have said sounds as if demand is low. Am I missing something here?

MR. DUDLEY. The demand is low for these securities today. It is low because of lack of leverage.

MR. LACKER. In other words, I'm saying that people who would provide funding also have a low demand or a low evaluation of the value of those securities. This all amounts to a bunch of people out there putting a low value on these securities.

MR. DUDLEY. No, I don't think that is quite right. We are in basically a market disequilibrium, where the traditional buyers of these securities have vanished. In a normal market environment, it would be completely reasonable to lend against these securities on a leveraged basis. But the people who would do that lending—banks and dealers—are balance sheet constrained, and that is why they are not willing to make those loans. If we had a normal banking and dealer situation today in which they were willing to extend loans to their counterparties, they would be providing the leverage. But that is just not happening.

MR. LACKER. Do you mean they are not making purchases? They still exist—right?—you said buyers vanished.

MR. PARKINSON. The lenders, I think he was saying. Some of the buyers vanished in the sense that they were SIVs or a lot of them were actually securities lenders who were reinvesting their cash collateral in this, and they have learned a lesson about doing that.

MR. LACKER. What evidence do you have that their absence from the market doesn't reflect just adverse views about the value of the securities that we should treat the way we treat all other security evaluation decisions that market participants make?

MR. DUDLEY. Well, I think the counterfactual is what the investors tell us. They tell us that that is not the case.

MR. LACKER. Well, wait. These are the ones who would be aided by this program, right?

MR. DUDLEY. If you look at AAA-rated assets, the historical credit risk on these assets is very, very low.

MR. LACKER. Over the cycle or in a recession?

MR. DUDLEY. Yesterday we talked about AAA tranches of student loans, which are 97 percent backed by the Department of Education. They are selling at LIBOR plus 300 or LIBOR plus 400. It is hard to say that those securities are priced there because of credit risk.

MR. LACKER. What would a security like that have sold for in 1974 or 1981?

MR. DUDLEY. I would be very surprised if you saw anything similar to what we are seeing today.

MR. LACKER. Well, they didn't exist then, so we can't look it up, for one. So how do we know these are out of bounds with what they would have traded at?

MR. DUDLEY. Jeff, this is all a judgment call. We have been making lots of judgment calls.

MR. LACKER. Yes, I know. But you are not giving us any evidence about this, Bill. You are not bringing anything coherent that is—

CHAIRMAN BERNANKE. There is an ongoing discussion about whether prices in markets are in some sense Pareto optimal prices or whether there is liquidity risk, other premiums, that the central bank could do something about. I don't know any way to resolve it. We have the same discussion each time. President Hoenig.

MR. HOENIG. All right. So we are going to give them a three-year term to give them assurances that they don't have to worry about rolling over. I am assuming that, as the market improves—and it should over the next year or 18 months—this would be almost self-liquidating because it would then become attractive to these parties to leave now and that would be taking it off our balance sheet. Is that the operating assumption?

MR. DUDLEY. Well, it really depends on what rate we are charging for the loan. Presumably we are going to charge for the loan at a rate that is attractive in times of extremis and somewhat expensive in normal times. So the question really is, Will the market financing improve quickly enough to make the market a cheaper source of funds? I don't think we can count on all of these loans going away before the end of the term. I think we have to presume that the term could actually be three years because we just don't know whether the financing will be available from the private sector sooner.

MR. HOENIG. That puts us at risk of taking a loss, then, if we should decide to reverse the policy action.

MR. PARKINSON. But we could accelerate that process by raising the minimum rate at which we would lend and so make it a higher spread above LIBOR. If we are going to do it through an auction—there are still some questions about how to allocate the credit within this program—and if there is a minimum rate at which we would make funds available in the auction (that would be the

spread over LIBOR) and we adjust that spread upward, we're giving them more of a push to go back to relying on market financing.

MR. HOENIG. That would be the ideal—to push them back out as quickly as possible when the market straightens out.

MR. DUDLEY. Well, I think the idea would be that the window for this program would not be three years. It would be a shorter period of time. So the program would come to an end by the end of 2009 perhaps, but the loans that we had made during that period could be outstanding for some time beyond that.

MR. HOENIG. But we're talking about a lot of assets on our books.

MR. DUDLEY. The other thing that we should talk a bit about is credit risk to the Fed in all of this. I think the important thing to recognize here is that the credit risk to the Fed is quite low because the Federal Reserve is protected by two things. One, it is protected by the haircuts. The Fed's risk is a credit risk not a mark-to-market risk. Two, the Fed is also protected by the TARP money. The way this will work is that, to the extent that people put securities to us, we take those securities and we place them in a disposition SPV (special purpose vehicle) that's capitalized by TARP money. We've been doing a lot of work recently about how risky these assets are and what the risk of loss is to the Fed. It turns out that it's very hard to generate scenarios in which the Fed has any meaningful risk of loss.

MR. HOENIG. I have no problem with that. What I'm thinking about is, if we do define a new regime, how we conduct policy. How are we tying ourselves down now relative to what we might want to do in the future in moving these assets on and off our balance sheet? I think that the more flexibility we have in moving them out, the more flexibility we have in any new regime we put forward, and to me that's important.

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

MR. KOHN. A comment and a question. One comment, to follow up on your comment, Mr. Chairman, to President Lacker—I think there’s pretty good evidence that there are liquidity strains in the market, beyond just credit strains, impinging on the price of these securities. One piece of evidence I would cite is the difference between on-the-run and the off-the-run Treasury security rates, which have gapped out by 40 or 50 basis points even from—well, I’m not even sure where they are relative to ’98, but I think they’re at record levels. The unwillingness of people—by “people” I mean market makers—to take positions and to do trades—their caution—is affecting the pricing of all kinds of securities well beyond the credit risk, and obviously there’s no difference in the credit risk in on-the-run and off-the-run Treasury securities.

MR. DUDLEY. Cash bonds versus derivatives, for example.

MR. KOHN. Right. The point that Bill made yesterday was that the equivalent things are selling at very different rates and no one is doing the arbitrage. Second, I like the model that Bill just described in which the Federal Reserve supplies liquidity but the private sector plus the Treasury takes the credit risk. I think that puts us in the right place and puts the taxpayer in the right place. So I think it’s a good idea to get this thing working and look for other opportunities to use it with the agreement of the Treasury. We can’t do it by ourselves.

My questions are that I thought we had some feedback along two lines I’d like to hear your comment on. One is that AAA wasn’t enough, that when we started this we thought doing just AAA tranches would restart the markets. So comment on that. The other question is about the nonleveraged purchasers of this paper. We’re not really catering to them, and will it be successful soon?

MR. DUDLEY. Okay. On the AAA—it is really for specific classes. I think we've heard that somehow the AAA would not be sufficient mostly from the auto loan area. It's hard to judge how credible that is, given that the AAA is the big bulk of the capital structure. So if you're getting good financing for most of the capital structure, it's hard to believe that you can't pay people at the bottom of the capital structure a high enough rate to induce them to do that. So I think I'm a little skeptical that this is true. I think that this program will be successful even if we confine it to just AAA.

MR. PARKINSON. Even of those who are saying that today they're having trouble not only placing the AAA but also placing the other tranches, a number say that, if you could start pricing the AAA tranche, that would make placing the others a lot easier. Basically you'd be determining how much of the spread income from the underlying assets has to go to the AAA, and that tells you how much you have left to compensate the lower rated.

MR. DUDLEY. You can figure out the economics better once you know how much you have to pay for that 75 percent of the capital structure.

MR. KOHN. On the nonleveraged?

MR. DUDLEY. I don't think this program addresses the nonleveraged, but I think there's not much nonleveraged interest in this sector at this point.

MR. PARKINSON. Well, that's the fundamental problem. Again, some of them were these classes of investors, who are no longer around. Even if they were around, I don't think we'd want them around—the SIV and securities lenders et cetera. But then you have the pension funds, the insurance companies, and so forth that are not in the market, and this really doesn't do anything at least initially to bring them back to the market. We have scratched our heads at some length trying to figure out a program that the Federal Reserve could develop that would entice them into

the market. But I think the fundamental problem is that our tool is the ability to lend, and if we're lending, there has to be a borrower. If you're talking about pension funds or life insurance companies that are not leveraged investors, it's just not clear how we can do much to help them get enthusiastic again about buying these securities. In the longer run, the agenda of providing liquidity to markets has to be joined with the reform agenda and figuring out what we can do to bring back confidence in structured credit products by those types of investors. There are lots of recommendations out there—from the President's Working Group and the Financial Stability Forum—and SIFMA came out with a long study about restoring confidence in the securitization markets. All of that, unfortunately, is going to take a while to implement, and as with so many other things these days, we're in uncharted territory. Nobody knows for sure, I think, whether any of those things, even though they make sense, will really be sufficient to bring those investors back. But as much as we try to come up with programs to address that, it seems at the moment to be beyond our power.

MR. DUDLEY. May I add just one thing to that? It's also not clear to me that the private sector won't be clever enough to take these things and package them into securities that have the equity and the leverage embedded in them and sell them to people who want to get high rates of return. It might be a pretty interesting proposition.

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. So are there any other constraints of a legal or regulatory nature on participants in this market? Is there anything that keeps any hedge fund in the world from buying these things?

MR. DUDLEY. Yes, we're still working on—

MR. LACKER. No, no, no, not the program—the underlying securities.

CHAIRMAN BERNANKE. In general.

MR. LACKER. In general. Anyone could buy them, right?

MR. DUDLEY. The issuers have to basically conform with the TARP executive comp restrictions.

MR. LACKER. No, no, no. Even not participating in the program. There are no limitations on the investors who can participate, for example, in the market for asset-backed student loans.

MR. DUDLEY. Well, there is in this program, in that we're trying to figure out the right way of restricting it to U.S. investors.

MR. LACKER. Excuse me. The program doesn't exist yet. Right now, today, is there anything that restricts a hedge fund in London from buying an asset-backed security.

MR. DUDLEY. I don't think so—not that I'm aware of.

MR. PARKINSON. No.

MR. LACKER. The reason I ask—the point that I'm making—is that you can reference theories but, at the end of the day, it's not just those predictions. It's the whole range of things about the theory. We haven't, in this, seen many theories put on the table, and the ones that have been—things like cash-in-the-market pricing—just don't seem to match up well with the facts. There's a gigantic, billions of dollars worth of investors out there who have the capability of buying any of this stuff. In Treasuries, people are capable of arbitraging that on-the-run and off-the-run thing. To explain this by appealing to some market segmentation seems really weak in this environment. You know, I welcome discussing theories under which these are Pareto improving programs, but I haven't seen one that's convincing yet.

MR. PARKINSON. I think it comes back to the point that Bill made earlier. If you're a hedge fund, even LIBOR plus 500 is still not a rich enough return to that hedge fund unless you can borrow against those securities and leverage it up into a higher return. And until 18 months ago you could have gotten the financing from Deutsche Bank, the Swiss banks, or any of our fine U.S. banks; but it doesn't appear at the moment that any of them are terribly interested in lending on a secured basis even to the strongest of hedge funds. They're simply hiding somewhere.

MR. DUDLEY. I think we're in disequilibrium. We're in a disequilibrium in which the dealers and banks that used to do this lending are in the process of dramatically shrinking their balance sheets. Goldman announced their fourth quarter today. They shrank their balance sheet by 18 percent from the end of their third quarter to the end of their fourth quarter. That's certainly not any notion of equilibrium in the marketplace, and I think that is what's causing the stresses in the securities markets.

MR. LACKER. Are we preventing equilibration? I mean, what are we doing? We're in the middle of an adjustment process, it takes some time.

MR. DUDLEY. The way I look at it, President Lacker, is that the deleveraging process is happening at a very rapid rate, and that speed can cause quite a bit of damage to financial conditions and, therefore, to the real economy. To the extent that we intervene and slow down the pace of that deleveraging, we can probably mitigate the degree of damage to financial conditions and to the real economy. That's how I think about it.

MR. LACKER. I look forward to seeing the model.

MR. FISHER. We're bridging.

MR. DUDLEY. We're bridging—exactly.

CHAIRMAN BERNANKE. President Lacker, I guess there are at least a couple of theories you could have. One of them has to do with capital. If you think that certain types of intermediaries have specialized knowledge and their ability to lend depends on their capital, then there are informational asymmetries in which clearly exogenous destruction of part of that capital is going to affect equilibrium outcomes in the market. That's one possibility. The other class of models has to do with liquidity, where you have thick or thin markets depending on "I trade if you trade" and so on and you have markets in which nobody is trading and so no one wants to be the first to enter. By becoming a marketmaker, you can perhaps generate more activity. I think there are some interesting perspectives out there.

MR. LACKER. I'm familiar with those models. We don't have time to discuss them now.

CHAIRMAN BERNANKE. No, we should discuss them off line. President Rosengren.

MR. ROSENGREN. The loss of the securitization market is really important, so I think this facility is a very important innovation. My question is, How important were the conduits to this market, and how confident are we that there will be structures to bring back the securitization market? Or are we basically bridging to these things going on bank balance sheets or other types of financial intermediaries? How do you see this? I guess the question is, From your perspective, what is this a bridge to?

MR. PARKINSON. I think the conduits were more important in some asset classes than others. In credit cards, for example, the conduits were pretty important. But even there they were important in recent years. I think they were important in recent years because spreads kept on coming down and down and deterred the real money investors that traditionally invested in these products—they were no longer interested. Yet the underwriters were able to keep the game going at those low spreads by resorting to selling to conduits and securities lenders and those sorts of things.

So over time, if we could deal with some of the issues around confidence and ratings and the other things that may be deterring the real money investors from entering the market, there is a hope of bringing them back and going back not to 2007, when it was conduits and that kind of stuff, but to, say, 2002, when you had real money investors buying these securities.

MR. DUDLEY. Also how you go through the cycle and what the loss experiences on these securities are going to be are hugely important. If this is the worst recession in 30 years, that's going to be a very interesting data point in terms of what the credit losses on the securities are. If it turns out that the credit losses are low and the securities are robust, I think that will create more demand for these securities over time. You have to weigh that, of course, in terms of what leverage we are going to require financial institutions to carry and how leveraged they can be, and where we set those two standards will determine what goes through the capital markets versus what goes through depository institutions.

CHAIRMAN BERNANKE. President Hoenig.

MR. HOENIG. Do we have in mind a limit as to how broadly we would make the credit facility available?

CHAIRMAN BERNANKE. Currently we have the class of securities. We're looking at consumer and small-business ABS.

MR. DUDLEY. The Treasury has basically committed \$20 billion of TARP, and we think that's going to fund a program of roughly \$200 billion of credit cards and auto loans and so on.

MR. HOENIG. I ask that question because there are some very important industrial companies that have been financing at fairly attractive rates and are now going to have to refinance that at far less attractive rates. I think that will have every bit as significant an impact on the

economy as the mortgage-backed securities. So unless we think through how we limit this, I think there's a legitimate case for just about anything.

MR. DUDLEY. Well, I'm sympathetic with your view that broader is better than narrower because of all the boundary issues that one creates. I think we all are sympathetic with that.

MR. FISHER. For example, would you consider AAA industrial-grade credits?

MR. DUDLEY. I think we would consider it. The real issue is the Treasury's willingness to use TARP money. We can't do any of this without the Treasury's commitment, so we're somewhat constrained in our ability to broaden it in the dimensions that we might want to broaden it.

MR. PARKINSON. We've heard from practically everyone that's not within the class of consumer ABS and SBA loans. We have heard from the commercial real estate people and from the auto dealers about their floor plan loans; we have heard from the banks that would like to get the motorcycles and leases. But also corporate loans—the CLO (collateralized loan obligation) market also is shut down. So there is no question. Again, we're in a hard place because, if we weren't constrained in part by the TARP capital and our concerns about our balance sheet, we would maybe be able to have a much broader program in which we didn't have to make these kinds of decisions. But given that there's only \$20 billion of TARP capital and we're willing at this point to go only to \$200 billion, you can't really say we'll take all these different asset classes.

MR. HOENIG. Which makes my point. We really have to focus on fixing the intermediary process in the United States. There's no limit to this. The refinancings coming due are huge.

CHAIRMAN BERNANKE. That's agreed and understood. Again, the limits include the TARP capital, our own willingness with respect to the balance sheet, and so on. There really are limits to what this can accomplish. President Plosser.

MR. PLOSSER. But in some sense, just to follow up on this point, the limits are what is really important here because, as long as we don't define some limits and we just say limited by TARP capital, well, that doesn't really answer the question. As long as the markets act as if we or someone else is going to step in and rescue them from any more lending arrangements they happen to be facing, the incentives for the intermediary system to repair itself or to gradually adjust are going to be limited. I'm worried about the lack of definition about what constitutes a legitimate market or instrument or firm that we wouldn't save.

CHAIRMAN BERNANKE. That's a good point, and I think one thing that is a problem now is the transition between Administrations. We'll soon have a new Treasury Secretary and a new Administration. I think it's very important—I've discussed this with Tim Geithner and others—that as soon as possible we lay out a broad strategy. What are the components of our strategy? What are we going to do going forward?

MR. PLOSSER. And what are the limits to it?

CHAIRMAN BERNANKE. Well, implicitly, what are the limits to it? How are we going to approach the banking issue? What are we going to do about failing firms? How are we going to try to address the securitization markets? I think the more clarity we can provide—I fully agree with the critique that lurching is very bad, and we need to provide an overview. There is a lot of sympathy from the new Treasury to do that, and we just have to overcome the fact that we're in a transition at the moment. But I take that point. It's a very good point.

MR. PLOSSER. By the way, Mr. Chairman, I want to thank you. I thought your exchange of letters with Senator Dodd, I guess it was, over the automobile issues was well done.

CHAIRMAN BERNANKE. I don't think you read it, though. [Laughter]

MR. PLOSSER. Excuse me, I read about it.

CHAIRMAN BERNANKE. Other questions for Bill?

MR. LACKER. I just want to raise two things that worry me. One is that, when these programs are small, you subsidize X percent of the credit market. The other 1 minus X percent, the effect on their rate of return, their borrowing costs, probably is small. But when X gets near—I don't know where it is now— $\frac{1}{3}$ or $\frac{1}{2}$, then our subsidization is raising borrowing costs for everyone who doesn't get money.

CHAIRMAN BERNANKE. It's not clear. The commercial paper market might be a counter-example to that.

MR. LACKER. There are some models in which that is the case. It's not obvious how we rule them out. The second thing is—I don't know how you evaluate this—you must be thinking whether this means that in every moderate-sized recession henceforth we'll view the Federal Reserve's best policy as extending—

CHAIRMAN BERNANKE. It's not a moderate recession, and it's not a normal financial downturn.

MR. LACKER. Right. Every recession of the size we've now seen 3 of in the last 50 years. So every recession of that size?

CHAIRMAN BERNANKE. You have to have a deep recession and a financial crisis. That's pretty unusual. Twice a century, or once a century so far.

MR. DUDLEY. I'll give you an example—the VIX has never been this elevated this long since the Great Depression.

MR. LACKER. So you're saying that you're not concerned about setting up expectations for the next recession.

CHAIRMAN BERNANKE. Certainly I'm concerned. I'm very concerned. But I'm also concerned about getting through this recession. So those are the tradeoffs.

MR. LACKER. Okay.

CHAIRMAN BERNANKE. Other questions about the program? If not, let me just tell you that I'm going to be doing a call with the press at 3:15 in the Special Library. Any FOMC member who has nothing else to do and would like to join is welcome. Michelle has given your Public Affairs people the phone number so that they can listen in, and we'll see how that goes. The next meeting is Tuesday-Wednesday, January 27-28. The meeting is adjourned. Thank you.

END OF MEETING