

**Meeting of the Federal Open Market Committee on  
March 20–21, 2007**

A meeting of the Federal Open Market Committee was held in the offices of the Board of Governors of the Federal Reserve System in Washington, D.C., on Tuesday, March 20, 2007, at 2:30 p.m., and continued on Wednesday, March 21, 2007, at 9:00 a.m. Those present were the following:

Mr. Bernanke, Chairman  
Mr. Geithner, Vice Chairman  
Mr. Hoenig  
Mr. Kohn  
Mr. Kroszner  
Ms. Minehan  
Mr. Mishkin  
Mr. Moskow  
Mr. Poole  
Mr. Warsh

Ms. Cumming, Mr. Fisher, Ms. Pianalto, and Messrs. Plosser and Stern, Alternate Members of the Federal Open Market Committee

Messrs. Lacker and Lockhart, and Ms. Yellen, Presidents of the Federal Reserve Banks of Richmond, Atlanta, and San Francisco, respectively

Mr. Reinhart, Secretary and Economist  
Ms. Danker, Deputy Secretary  
Ms. Smith, Assistant Secretary  
Mr. Skidmore, Assistant Secretary  
Mr. Alvarez, General Counsel  
Ms. Johnson, Economist  
Mr. Stockton, Economist

Messrs. Connors, Evans, Fuhrer, Kamin, Madigan, Rasche, Slifman, and Wilcox, Associate Economists

Mr. Dudley, Manager, System Open Market Account

Messrs. Clouse and English,<sup>1</sup> Associate Directors, Division of Monetary Affairs, Board of Governors

Mr. Struckmeyer, Associate Director, Division of Research and Statistics, Board of Governors

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<sup>1</sup> Attended Wednesday's session only.

Mr. Reifschneider, Deputy Associate Director, Division Research and Statistics, Board of Governors

Messrs. Dale<sup>2</sup> and Oliner, Senior Advisers, Divisions of Monetary Affairs and Research and Statistics, respectively, Board of Governors

Mr. Hambley,<sup>2</sup> Assistant to the Board, Office of Board Members, Board of Governors

Mr. Meyer, Visiting Reserve Bank Officer, Division of Monetary Affairs, Board of Governors

Mr. Small,<sup>1</sup> Project Manager, Division of Monetary Affairs, Board of Governors

Mr. Kiley<sup>2</sup> and Ms. Kole,<sup>2</sup> Section Chiefs, Divisions of Research and Statistics and International Finance, respectively, Board of Governors

Mr. Doyle,<sup>2</sup> Ms. Mauskopf,<sup>2</sup> and Mr. Wood,<sup>2</sup> Senior Economists, Divisions of International Finance, Research and Statistics, and International Finance, respectively, Board of Governors

Ms. Roush, Economist, Division of Monetary Affairs, Board of Governors

Mr. Gross, Special Assistant to the Board, Office of Board Members, Board of Governors

Mr. Luecke, Senior Financial Analyst, Division of Monetary Affairs, Board of Governors

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

Mr. Rosenblum, Executive Vice President, Federal Reserve Bank of Dallas

Mr. Hakkio, Ms. Mester, Messrs. Rolnick, Rudebusch, and Sniderman, Senior Vice Presidents, Federal Reserve Banks of Kansas City, Philadelphia, Minneapolis, San Francisco, and Cleveland, respectively

Messrs. Cunningham and Hilton, Vice Presidents, Federal Reserve Banks of Atlanta and New York, respectively

Ms. Sbordone, Research Officer, Federal Reserve Bank of New York

Mr. Hetzel, Senior Economist, Federal Reserve Bank of Richmond

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<sup>1</sup> Attended Wednesday's session only.

<sup>2</sup> Attended portion of the meeting relating to the discussion of communications issues.

**Transcript of the Federal Open Market Committee Meeting of  
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**March 20, 2007—Afternoon Session**

CHAIRMAN BERNANKE. Good afternoon, everybody. Let me be the first to welcome Dennis Lockhart sitting in for the Federal Reserve Bank of Atlanta. We'll start with Bill Dudley.

MR. DUDLEY.<sup>1</sup> Thank you, Mr. Chairman. Financial markets have become much more turbulent since the last meeting—especially in subprime mortgages and associated securities, in U.S. and global equities, and in foreign exchange markets. The good news is that markets have generally remained liquid and well functioning, with a minor exception on the New York Stock Exchange on February 27. Moreover, there are few signs of significant contagion from the subprime mortgage market into the rest of the mortgage market or from subprime mortgage credit spreads to corporate credit spreads more generally. In general, the debt markets have been mostly unruffled by recent developments.

I plan to focus my attention on four major market developments. First, the substantial turmoil in the subprime mortgage market—I talked about the risk that this market might unravel at the January FOMC meeting; that certainly occurred more quickly and more forcefully than I anticipated. Second, I want to talk a little about the decline in U.S. equity prices and the accompanying rise in actual and implied price volatility. Third is the sharp correction in the so-called “carry trade” in foreign exchange markets. The low interest rate currencies such as the yen and the Swiss franc have appreciated, with the greatest moves coming against their higher-yielding counterparts. Finally, I'll talk a bit about the sharp downward shift in market expectations about the path of the federal funds rate target over the next year and a half. Two key questions motivate my comments. First, is the market turbulence driven mainly by fundamental developments, or does it reflect mainly a shift in the risk appetite of investors? Second, what is the ongoing risk of contagion from the market area that has experienced the most stress—the subprime mortgage market—to other markets?

Regarding the subprime mortgage market, the deterioration appears driven mostly by fundamental developments. As you know, the delinquency rates for subprime adjustable-rate mortgages have risen sharply. In contrast, as shown in exhibit 1 of the handout, there has been little change in delinquency rates for fixed-rate mortgages. Most significantly, delinquency rates for the 2006 vintage of subprime adjustable-rate mortgages have climbed unusually quickly. As shown in exhibit 2, the last vintage that went this bad so fast was the 2001 vintage, and that had a much different economic environment—one characterized by a mild recession and a rising unemployment rate. The deterioration in the quality of subprime mortgage credit has led to a sharp widening in credit spreads for the ABX indexes. The ABX indexes

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<sup>1</sup> Material used by Mr. Dudley is appended to this transcript (appendix 1).

represent the cost of default protection on a basket of collateralized debt obligations that are backstopped mainly by subprime mortgages. As shown in exhibit 3, although this widening has been most pronounced at the bottom end of the credit quality spectrum (BBB-minus and BBB), it has rippled upward to the higher-rated tranches that are better protected. Exhibit 4 shows how the credit deterioration initially registered in the ABX indexes as market participants sought to buy protection. In milder form, this deterioration also registered in the underlying collateralized debt obligations and asset-backed securities. The widening of the credit spread in the ABX indexes was probably exaggerated by the fact that there was an asymmetry between the many that were seeking loss protection and the few that were willing to write protection. This can be seen in two ways. First, as shown in exhibit 4, the spread widening was more pronounced in the ABX index than in either underlying collateralized debt obligations or asset-backed securities. Second, as shown in exhibit 3, the ABX spreads have come down a bit from their peaks even as the underlying market for subprime mortgages, as reflected in the ongoing viability of many mortgage originators, has continued to deteriorate.

The deterioration in the subprime market has undermined the economics of subprime mortgage origination and securitization. This is especially true for those mortgage originators with poorer underwriting track records. Their loans can no longer be sold at a sufficient premium to par value to cover their origination costs. In addition, the costs that they must incur to replace loans that have defaulted early have increased sharply. In several cases, these difficulties have caused banks to pull their warehouse lines of credit. Several of the large monoline originators are bankrupt, distressed, or up for sale—they are highlighted in red in exhibit 5. Moreover, several of the diversified lenders, such as HSBC, have indicated that they are tightening credit standards and pulling back from this sector. The result is that the volume of subprime mortgage originations is likely to fall sharply this year—perhaps dropping one-third or more from the 2006 rate of slightly more than \$600 billion. This tightening of credit availability to subprime borrowers is likely to manifest itself through a number of channels. These channels include (1) a drop in housing demand, as borrowers who would have been able to get credit in 2006 no longer qualify under now toughened underwriting standards; (2) an increase in housing supply, as the rate of housing foreclosures increases (notably, the Mortgage Bankers Association reported last week that the rate of loans entering the foreclosure process in the fourth quarter of 2006 reached a record level of 0.54 percent, the highest level in the history of the thirty-seven-year-old survey); and (3) additional downward pressure on home prices, which in turn threatens to increase the magnitude of credit problems, delinquencies, and foreclosures.

In considering these channels, it is important to emphasize that the credit strains in the subprime sector are unlikely to have peaked yet. The reset risk on the adjustable-rate portion of the subprime loans originated in 2005 and 2006 will be felt mainly over the remainder of 2007 and 2008. Most of the adjustable-rate loans are fixed for two years at low “teaser” rates. When yields adjust upward once the teaser rate period is over, some borrowers may have insufficient resources to service these

debts. The good news—at least to date—is that spillover into the alt-A mortgage and conforming mortgage areas is very mild, both in terms of credit spreads and in terms of loan performance. Although there has been some rise in delinquency and foreclosure rates for higher-quality residential mortgages, these rates are still low both qualitatively and historically. Moreover, there is little evidence that the subprime problems have hurt mortgage loan volumes. For example, the Mortgage Bankers Association index of mortgage applications for purchase has increased in the past three weeks.

Turning next to the U.S. equity market, it is less clear-cut whether the decline in prices and the rise in volatility are fundamentally based. As several observers have noted, equity valuations do not appear to be excessive. If that is the case, then why have equities been more turbulent than corporate and emerging-market debt, for which spreads remain unusually narrow? Although this point is legitimate, two fundamental developments that make U.S. equity prices less attractive deserve mention. First, equity analysts have been reducing their earnings forecasts for 2007. Although the top-down view of the equity strategists for the S&P 500 index has not changed much, on a bottom-up basis, earnings expectations have dropped sharply. As shown in exhibit 6, the aggregate forecasts of the individual sector analysts now indicate a growth rate in S&P 500 earnings for 2007 of about 6 percent, down from about 9 percent at the beginning of the year. In contrast, S&P 500 earnings have grown at an annual rate of more than 10 percent for four consecutive years. It should be no surprise that falling earnings expectations could weigh on equity prices. Second, uncertainty about the growth outlook has increased. This shows up clearly, for example, in our most recent primary dealer survey. Because greater uncertainty about the growth outlook presumably implies greater risk, the rise in uncertainty should—all else being equal—result in lower share prices. In contrast, it is easier to explain the modest widening of corporate credit spreads. In theory, lower share prices and higher volatility imply a greater risk of default, which should imply wider credit spreads. Corporate credit spreads have behaved in a manner consistent with this. Josh Rosenberg from the research group at the Federal Reserve Bank of New York recently investigated this issue. He found that the spread widening in the high-yield corporate debt sector was consistent with past periods in which the implied volatility for equities rose sharply. Exhibit 7 summarizes one key result. The widening in the BB-rated corporate spreads in the week after the February 27 retrenchment was of a magnitude similar to that of other instances in which implied equity-price volatility as measured by the VIX index rose sharply. In the most recent episode, the VIX index rose 848 basis points, and the BB corporate spread rose 27 basis points. This rise compares with an average rise of 21 basis points in the BB spread in the ten cases in which the VIX rose most sharply. The rise in the most recent episode is well within the range of historical experience.

In many other areas in which asset prices have moved sharply, risk-reduction efforts appear to have played the biggest role. For example, in the foreign exchange markets, the biggest currency moves were in the currency pairs associated with so-called carry trades, such as the yen and Swiss franc for the low-yielding currencies

and the Australian and New Zealand dollar for the high yielders. Exhibit 8 indicates the change in the yen versus the Australian dollar, the New Zealand dollar, the euro, the British pound, and the U.S. dollar during three separate periods—the week before the February 27 stock market selloff, the week of the stock market selloff, and the past two weeks. The high-yielding currencies appreciated the most during the run-up to the February 27 selloff, fell the most during the February 27 week, and have recovered the most against the yen over the past two weeks. The changes in speculative positioning in foreign exchange future markets tell a similar story. Exhibit 9 shows the change in the share of the open interest position held by participants in the noncommercial futures market. Over the past few weeks, net short positions as a percentage of the overall open interest in the yen have dropped, and long positions in the British pound and Australian dollar have dropped.

An examination of how Treasury yields, stock prices, exchange rates, and credit spreads have moved also indicates that risk-reduction efforts have been important. Exhibit 10 shows the correlation of daily price and yield movements in 2007 before February 27. As one can see, the correlations were quite low. In contrast, the correlation matrix in exhibit 11 shows the correlation of daily price moves for the period beginning on February 27. Most of the correlations have climbed sharply, suggesting that risk positioning is driving price and yield movements.

Finally, short-term interest rate expectations have shifted substantially since the last FOMC meeting. As shown in exhibit 12, near-term expectations have shifted, with market participants now expecting a modest reduction in the federal funds rate target by late summer. However, the federal funds rate futures curve is still above the curve at the time of the December FOMC meeting. In contrast, longer-term expectations have shifted more sharply, with a larger move toward easing. As shown in exhibit 13, the June 2008/June 2007 Eurodollar calendar spread is now inverted by about 60 basis points. This calendar spread is more inverted than it was at the time of the December 2006 FOMC meeting.

Compared with the shift in market expectations, the forecasts of primary dealers have not changed much. Exhibits 14 and 15 compare dealer expectations with market expectations before the January FOMC meeting and before this meeting. The horizontal bold lines represent market expectations. The blue circles represent the different dealer forecasts. The green circles represent the average dealer forecast for each period. The two exhibits illustrate several noteworthy points. First, the average dealer forecast has not changed much since the January FOMC meeting—the green circles in the two charts are in virtually the same position. Second, the amount of dispersion among the dealers' forecasts has not changed much—in fact, the range of the blue circles is slightly narrower currently. Although many dealers now mention that their uncertainty about the growth outlook has increased, that does not appear to have been reflected in their modal forecasts. Third, there is now a substantial gap between the dealers' average forecast and market expectations—the gap between the horizontal bold lines, which represent market expectations, and the green circles, which represent the average dealer's view, has increased. Why is there a large gap

between the dealers' forecasts and market expectations? I think there are three major explanations. First, the dealers' forecasts are modal forecasts and do not reflect the downside risks that many dealers now believe have emerged in the growth outlook. Second, dealer forecasts often lag behind economic and market developments. Only when "downside risks" grow big enough to pass some threshold are dealers likely to alter their modal forecasts. Third, some of the downward shift in market expectations may represent risk-reduction efforts. An investor with speculative risk positions that would be vulnerable to economic weakness might hedge these risks by buying Eurodollar futures contracts. This hedging could push the implied yields on Eurodollar futures contracts lower than what would be consistent with an unbiased forecast of the likely path of the federal funds rate.

Nevertheless, the potential gap between market expectations and the Committee's interest rate expectations may pose a bit of a conundrum for the Committee. If the Committee were to shift the bias of its statement in the direction of neutral, market expectations with respect to easing would undoubtedly be pulled forward and might become more pronounced. After all, most dealers expect that the Committee will not change the inflation bias of the January FOMC statement. In contrast, keeping the bias unchanged in order to keep market expectations from shifting further in the easing direction might be inconsistent with the Committee's assessment of the relative risks regarding growth and inflation. If the Committee were to keep the bias unchanged even when its views had changed, the communication process might be impaired.

On a housekeeping note, I wish to bring to the Committee's attention the changes to the "Morning Call" with the Trading Desk. They were discussed in a memo distributed to the Committee last week. Under the new format, which we plan to implement on Thursday, the call will be open to all members of the Committee, and you will have the option of participating in the 9:10 a.m. discussion of reserve management issues, the 9:20 a.m. portion covering recent developments in global markets, or both portions. The March 15 memo outlines the new procedures for joining these calls. Finally, there were no foreign operations during this period. I request a vote to ratify the operations conducted by the System Open Market Account since the January FOMC meeting. Of course, I am very happy to take questions.

CHAIRMAN BERNANKE. Thank you. Are there questions for Bill either about the outlook or the housekeeping matter? President Fisher.

MR. FISHER. Bill, you talked about subprime mortgages in some detail but not about alt-A mortgages in great detail. My understanding is, and I just want to check to see whether I'm correct, that 20 percent of the 2006 purchase-dollar originations were alt-A, roughly the same percentage as subprime. It's my further understanding that 81 percent of the alt-A originations were no-

documentation or low-documentation loans. How much confidence do you have—and I can tell by your reaction that there's a question—that alt-A mortgages are not as perilous as subprimes? If you don't have confidence or if they are perilous, what consequences might ensue?

MR. DUDLEY. Well, unfortunately, the information on the alt-A market is not very good. In fact, there is disagreement about exactly what an alt-A mortgage is. If you can't define it, it's pretty hard to measure. That is problem number one. A good way of thinking about the mortgage market is as a continuum of loan quality extending from, at the bottom, the worst underwritten subprime mortgages that are adjustable rate up to the conforming mortgages that we always associate with the GSEs, with alt-A somewhere in the middle. Obviously, to the extent that the housing market deteriorates and home prices don't go up, there will be more strain on the alt-A market; but I don't get a sense that we will see the kind of underwriting problems that we have seen in the subprime mortgage area. As of this date, we don't see a lot of evidence of a significant problem in that area; but, again, we don't have very good information, and we'll have to wait and see.

MR. FISHER. May I ask of Bill, Mr. Chairman, that we continue the analysis on this front and keep probing?

MR. DUDLEY. Absolutely.

MR. FISHER. Thank you.

CHAIRMAN BERNANKE. President Minehan.

MS. MINEHAN. This is a continuation of the same question because I was intrigued by your chart that shows 2006 sixty-day and over delinquencies for subprime ARMs tracking with 2001. I don't recall the world as we know it coming to an end in the subprime market in 2001, but I also wonder how big the subprime market was and how much it might have been characterized by



some of the rather difficult practices that we know went on, particularly from the middle of '06 through the end of the year.

MR. DUDLEY. You're absolutely right. The market was much smaller at that time. I would characterize the deterioration that you saw in 2001 as probably mostly driven by the macroeconomy, and the deterioration that you saw in 2006 as driven mostly by two things: more laxity in the underwriting process and a change in the trajectory of home prices. So I think the causes of the deterioration in the two cases were quite different. The subprime mortgage market in 2006 is several times the size of the originations in 2001; so obviously it will have a bigger consequence.

CHAIRMAN BERNANKE. President Geithner.

VICE CHAIRMAN GEITHNER. You made a distinction at the beginning between something that was fundamental and something that was about a change in risk perception. Just conceptually, how do you distinguish between those two things? Is the latter something that you can't attribute to a change in observable economic conditions?

MR. DUDLEY. The distinction I'd make between fundamentals and risk reduction is that the latter occurs when people adjust their portfolios not because they change their view about the quality of a particular asset but because they are reducing the amount of risk exposure to the market that they want to have. So when you have a big event like February 27, obviously volatility goes up, and so value at risk goes up, and you may decide to reduce your risk. So you're going to sell all sorts of things, and the prices of those things you sell will go down regardless of whether you've actually changed your opinion about them in any meaningful way. Why did corn prices on February 27 fall 2 percent? It was probably because corn prices had been in a big bull market, people had risk positions in corn, and so they wanted to get out of those positions.

VICE CHAIRMAN GEITHNER. I guess my question is, How do you know?

MR. DUDLEY. You don't.

VICE CHAIRMAN GEITHNER. You don't know. Thank you.

MR. DUDLEY. You don't know with certainty. You make an inference.

VICE CHAIRMAN GEITHNER. Mr. Chairman, may I follow up?

CHAIRMAN BERNANKE. Yes.

VICE CHAIRMAN GEITHNER. Bill, one of the factors you said that might account for the gap between the primary dealer expectations about the fed funds rate at different horizons and the average market pricing might be the flight to quality. It's not quite a flight to quality, but it reflects the demand for safer assets.

MR. DUDLEY. Or assets that would do well in a bad economic environment as a hedge to the rest of your risk.

VICE CHAIRMAN GEITHNER. A flight to liquidity or something like that. Do you think the same story might account for what happened in far forward interest rates in the Treasury market as well? Would you say that perhaps the same kind of phenomenon might account for that?

MR. DUDLEY. Going out on the curve to ten years, it's possible. The Eurodollar market is probably the most liquid market in which one could do this very, very quickly. So I guess I would view what happened in the longer-dated Treasuries is probably more reflective of emerging downside risk to the economy, but there's probably some of the flight to liquidity as well. I think it's hard to tell.

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. What institutional or quantitative constraints are there on traders who would be positioned to take the other side of the movement into Eurodollar futures for the hedging

operation? You paint a picture of everyone knowing that the fed funds rate path is above what's implied by Eurodollar futures and of no one being able to pan that out of the market.

MR. DUDLEY. Well, another explanation is that the economists who make the dealer forecasts are not the traders who execute the Eurodollar futures positions. So that's a possible alternative explanation. Generally, there's a disequilibrium. A number of people that I've talked to in the markets have said that this is what they thought was going on, and they advised me not to take what was going on in the Eurodollar futures markets literally because they felt that some of them were putting on these positions in case of a bad scenario that led to significant reductions in short-term interest rates. So I'm basically taking the explanation somewhat on the advice of market participants who told me that they were doing this.

MR. LACKER. Let me just follow up. I look at Eurodollar futures every day. You're an experienced, savvy market guy and I want to learn how to understand these markets. My presumption would be that, if that takes place, there's something limiting the capital of people who could take the offsetting position. How could markets be so out of whack for so long?

VICE CHAIRMAN GEITHNER. Let me just say for the record that I don't think Bill is saying that the market is mispricing the value.

MR. LACKER. I thought that was clearly what he said.

VICE CHAIRMAN GEITHNER. I think he is just saying that the primary dealers whom we survey, who are a strange group, [laughter] have a view that's somewhat different from the view of the markets.

MR. LACKER. No, he said that people told him not to take the Eurodollar price as indicative of the expected value of the Eurodollar rate at that date. Is that what you were saying? You said "disequilibrium." I'm trying to understand how financial markets work here.

MR. DUDLEY. When people are in risk-reduction mode, they don't want to take on more risk. So there may be an imbalance temporarily between those who want to hedge versus those who want to take more risk. To take the other side of that bet, they're basically increasing their risk. The ABX market is another example of that. Why did the ABX index go to a 2,000 yield spread? Well, it was partly because a lot more people wanted to buy protection in the subprime mortgage market than wanted to sell it. In a perfect economic world, it should be arbitrated away, but I think there are cases where that just doesn't necessarily happen.

MR. REINHART. I think it's the other point, President Lacker, about how much confidence you put in the green dots, which are the survey of, to use the Vice Chairman's words, that strange group that the New York Fed contacts.

MR. LACKER. This isn't about the green dots. This is about the Eurodollar.

MR. REINHART. No, no, no. Because primary dealers' economists, quite often, probably are reporting their modal forecast because they're telling a story about where the Committee was going forward and painting an overall picture of the economy, whereas the Eurodollar contracts reflect averaging across all the states of nature. What we see when we look at options is a growing downside tail. So it could be the emergence of that significant downside tail, which economists will talk about as a risk to their outlook but traders actually have to price, as another reason that those two things are diverging.

MR. LACKER. That's helpful. But, still, apart from the green dots, he's telling us there's some mispricing that's systematic.

MR. DUDLEY. It's a possible explanation. Vince's explanation, which I made in fact in my prepared remarks, is probably one I would put a greater weight on.

CHAIRMAN BERNANKE. President Moskow.

MR. MOSKOW. I just want to get back to the subprime market for a quick question. There have been a lot of newspaper stories about people who default on the first payment in these mortgages, which is a bit of a puzzle to me, unless it's just pure fraud. I was just wondering if you had any information about whether there has been an increase in fraud here or whether there are other reasons for people defaulting on the very first payment on their mortgage.

MR. DUDLEY. First, a simple explanation—I don't know if this is correct—is that, if home prices are going up and you're getting 100 percent loan to value, you're getting basically a free option to see if the home prices will keep going up. If they don't go up, you decide, okay, thank you very much for your loan, and I'm not going to make any payments. So probably some people are speculating. Certainly, there have been anecdotal reports of investors who were doing this. Second, there probably has been fraud. I mean, there are examples of people who were obtaining mortgages for other people, when they weren't the true beneficiaries of the loan.

MR. MOSKOW. Have you seen any data or hard evidence on this?

MR. DUDLEY. No.

MR. MOSKOW. Thank you.

CHAIRMAN BERNANKE. President Pianalto.

MS. PIANALTO. Actually, Michael, the CEO of a large bank that originates mortgages, with whom I had a conversation, commented that this indicator is a bit confusing because it has to do with the fact that the owners of these loans change. By the time the person makes the first payment, it is a struggle to figure out to whom that payment goes. So the mortgage shows up as default with the end owner, but the person did make the payment. The payment just didn't get to the right place. So the CEO said that we need to be careful about making too much of that

number because it's more of an accounting issue than it is people actually defaulting on their first payment.

MR. DUDLEY. That is a fair point. In fact, that's why we like to look at sixty-day-plus delinquencies and try to push people away from looking at thirty days—it takes time for the payment to find the actual loan holder.

MS. PIANALTO. He mentioned that a number of 3 percent was attached to first payments in default and that number is just way out of whack.

CHAIRMAN BERNANKE. I had been puzzled about the quantitative relationship between the subprime problems and the stock market. I think that the actual money at risk is on the order of \$50 billion from defaults on subprimes, which is very small compared with the capitalization of the stock market. It looks as though a lot of the problem is coming from bad underwriting as opposed to some fundamentals in the economy. So I guess I'm a bit puzzled about whether it's a signal about fundamentals or how it's linked to the stock market.

MR. DUDLEY. It's hard to know how connected the subprime market and the stock market have been in the past month or two. Clearly, people are nervous about the positive feedback loops of less mortgage origination leading to less housing demand leading to lower home prices leading to a weaker economy—and then that feeding into corporate earnings and disappointments on the corporate earnings side. I don't think any of us knows exactly how powerful those linkages are, but that's probably at least one element that equity investors are worried about.

CHAIRMAN BERNANKE. Does anyone have any questions about the call procedure? Are there any other questions? Then we need a vote to ratify domestic operations.

MS. MINEHAN. So moved.

SPEAKER. Second.

CHAIRMAN BERNANKE. Without objection. Thank you. It's time for the economic situation. Dave Stockton.

MR. STOCKTON. Thank you, Mr. Chairman. On the whole, the staff forecast has survived the economic news and financial events of the past seven weeks reasonably well. Although we revised down our projection for the growth of real activity, we don't really see the fundamentals of the economy as having changed significantly over the intermeeting period. Indeed, our forecast for the growth of real GDP for 2007 has been fluctuating in the 2 to 2¼ percent range since last August, and this latest revision has only returned us to the lower end of that relatively narrow range. Still, I'll admit that I've been experiencing something like the pangs of a nervous flier. For the most part, my anxieties have been held in check by an economic ride that has proceeded relatively smoothly along the anticipated flight path. But each episode of turbulence seems to trigger the panicked thought that economies, like planes, really do crash from time to time. Don't worry. I will spare you another episode of self-psychoanalysis [laughter], loosen my grip on the armrests, and concentrate this afternoon on a dispassionate analysis of recent events and their implications for the economic outlook.

I must say, we have had some important developments with which to contend— weaker economic data, higher oil prices, problems in subprime mortgage markets, and a drop in equity valuations. Among the weak reports, one that was not a surprise to us was the downward revision in the BEA's estimate of fourth-quarter GDP. As you will recall, one of the major differences between our January forecast of a 2½ percent increase in fourth-quarter real GDP and the BEA's advance estimate of a 3½ percent increase was their much higher figure for inventory investment. While I am certain that it was more luck than skill, the incoming inventory data for the fourth quarter were very close to our expectations and far below the BEA's figures— accounting for a sizable fraction of their downward revision to real GDP.

That was important because a central element in our story is that, although some inventory buildups have developed in recent months, production adjustments are occurring promptly enough to prevent the emergence of a full-blown inventory cycle that could cause a period of subpar growth to morph into an economic downturn. Inventory-sales ratios rose noticeably over the second half of last year, as the growth of final demand shifted down. The problems were most apparent in the motor vehicle industry. But aggressive cuts in motor vehicle assemblies in the second half of last year and early this year combined with a reasonably stable pace of sales in the neighborhood of 16½ million units appear to have put this problem largely behind us. Judging by the increases in production scheduled for the second quarter, the automakers seem to share that view. Inventories also backed up in a wide variety of construction-related industries, and substantial cuts in the production of construction supplies occurred in the fourth quarter. But we still see inventory problems lingering

here. More recently, some signs of excess stockbuilding have extended beyond motor vehicles and construction supplies, most notably in machinery, electrical equipment, appliances, and furniture. As a consequence, we expect manufacturing output to remain quite tepid in the first half of this year. That forecast seems consistent with the generally lackluster results from national and regional surveys of business activity. Still, we don't see the current situation as precipitating a cyclical downturn in aggregate activity. I offer that observation with some trepidation. For some reason, I recall past humiliations more vividly than successes, perhaps because they have occurred with much greater frequency. [Laughter] But I recall sitting here in the autumn of 2000 telling President Poole that we did not see a serious inventory overhang in the tech sector. Looking back on that episode, it wasn't that we weren't looking carefully enough at the data in hand, rather we were led astray by our failure to anticipate how rapidly final demand for these goods would crumble.

If you were inclined to worry on that score, the recent data on final demand might not be encouraging, as we have had more surprises to the downside than the upside. In that regard, one of the most noteworthy areas of downside surprise has been equipment spending. The January figures on orders and shipments for nondefense capital goods were weaker than we had expected, and those readings came on the heels of considerable softness late last year. Demand for high-technology goods seems to have been well maintained, and although transportation investment has been weak, that had largely been expected. The principal surprise has been equipment investment outside high-tech and transportation, which now seems poised to fall about 7 percent at an annual rate this quarter after having fallen about 5 percent in the fourth quarter—both figures well below our earlier expectations. To be perfectly honest, we're not entirely sure what to make of the magnitude and extent of this softness in capital spending. We don't think that it is entirely a statistical mirage because we have seen a noticeable weakening in our industrial production measures of business equipment, which for the most part are independent observations. To be sure, much of the slowing has occurred for equipment related to the motor vehicle and construction industries. But just like the inventory data, the recent information on capital spending suggests weakness beyond these two areas.

Our best guess is that businesses may have become a bit more cautious and possibly scaled back or put on hold some capital spending plans while they gauge the extent to which the economic landscape may have shifted over the past six months. If so, it may be a while before those concerns fully abate; accordingly, we have marked down our forecast for the growth in real E&S in 2007, to 2¾ percent, from the 5¼ percent pace we were projecting in January. We do, however, expect spending growth to pick back up to a rate of about 5 percent in 2008, only a bit below our previous forecast. We don't think a more aggressive adjustment—such as the one we highlighted as the business pessimism scenario in the Greenbook—is yet warranted. Financial conditions remain favorable, corporate balance sheets generally look healthy, capital spending surveys have been upbeat, and business sentiment has softened a bit but not seriously sagged. We just don't see the preconditions for a serious retrenchment in capital spending in coming quarters.



In addition to E&S spending, the other major source of downward revision in our projection was housing. Two factors led to the further downward adjustments that we made to our housing forecast. First, the actual data on housing starts and building permits came in below our expectations in January and suggested to us that the pace of activity in coming quarters was likely to be more subdued than we had earlier expected. The data that we received this morning on starts and permits was a mixed bag. Starts of single-family homes rose 10 percent in February, in contrast to the 2 percent increase that we had projected. But adjusted permits, a less noisy indicator of activity, fell 2 percent last month, close to our expectations. Taken together, the February readings have little consequence for our projection. The second factor weighing on our housing forecast was the rapid intensification of problems in the subprime market. In this projection, we made an explicit adjustment to our forecast of sales and starts for what we now expect to be a significant pullback in nonprime originations in the period ahead. As we noted in the Greenbook, we estimate that the easing of lending standards may have elevated nonprime originations by an amount equal to 10 percent of total home sales in 2005 and 7 percent of sales in 2006. We have lowered the level of our forecast of starts and sales a further 3 percent to account for a more abrupt pullback in nonprime originations in the months ahead. This would be roughly consistent with a decline of about 35 percent in nonprime originations this year.

In revising this aspect of our forecast, we have assumed that the increase in foreclosures associated with subprime difficulties will have only a small negative effect on overall house prices. We take some comfort from the fact that futures prices on the Case-Shiller house price indexes have edged only slightly lower in the past couple of weeks as this issue gained attention. We have also assumed that there is little spillover from subprime difficulties into the prime portion of the market. We have for some time been assuming that, as newly issued loans seasoned and as rates reset on adjustable-rate mortgages, some gradual deterioration would occur in loan performance, and that is still our view. In sum, the combination of the weaker incoming data and the problems in subprime lending led us to mark down our residential investment forecast enough to take about  $\frac{1}{4}$  percentage point off the growth of real GDP this year. Obviously, this area will require continued scrutiny in the period ahead.

Elsewhere in the household sector, consumer spending has been coming in very close to our expectations. Last week's retail sales report was read by many as weak, but it was right in line with our forecast. To be sure, sales increases have trailed off in recent months, but that pattern is consistent with the marked slowing in consumption growth that we are forecasting for the second quarter. Although the data have been in line with our expectations, the fundamentals for consumer spending have weakened since the January Greenbook. In particular, the trajectory of oil prices is about \$5 per barrel above our previous forecast, and this should take a bite out of purchasing power going forward. In addition, we now have equity prices running about 4 percent below our previous projection, which along with slightly weaker

house prices, suggests a bit less impetus to spending from wealth. All told, real PCE is expected to increase at an annual rate of  $2\frac{1}{2}$  percent this year and next, down about  $\frac{1}{4}$  percentage point from our previous forecast.

This might sound like a pretty gloomy report. But there have been some positives, too. Karen will discuss the external sector, which is expected to be a smaller drag on output in this forecast compared with our previous one. Also, fiscal policy, most notably defense spending, seems likely to impart more impetus to growth than we had earlier expected. Moreover, the labor market continues to flash stronger signals than would be expected from an economy in which growth has slowed below the pace of its potential. The unemployment rate fell back to 4.5 percent in February and has been basically trendless since last fall. If payroll employment gains have slowed at all in recent months, they have slowed just a bit. There *have* been a few developments of late that hint of a slowing in labor demand. Initial claims have averaged a higher level in recent weeks, and insured unemployment has moved up. Moreover, job losers unemployed less than five weeks—a proxy for the layoff rate—have increased, and surveys of hiring plans have turned a bit less positive. We still think a slowdown in labor demand will become more evident in the coming months, but you've heard me say that before.

In the end, there were more minuses than pluses over this intermeeting period, and we marked down our forecast for the growth of real GDP by  $\frac{1}{4}$  percentage point both this year and next, to 2.1 and 2.3 percent, respectively. But we consider these to be incremental adjustments to a story that remains basically unchanged. Housing is currently exerting a considerable drag on aggregate economic activity. That drag should lessen in the second half of this year, and the pace of expansion should pick up somewhat. However, the reacceleration of activity seems likely to be limited. The slowdown in house prices implies a diminishing impetus from household wealth and the normal multiplier-accelerator consequences of the current hit to home construction should restrain the growth of consumption and business investment. With growth projected to remain below potential, the unemployment rate is expected to drift up to 5.1 percent by the end of next year, a bit above our previous projection.

As for inflation, we have had only minor changes in our forecast of its key determinants. As I noted earlier, the path of oil prices is up about \$5 per barrel, and this adds about  $\frac{1}{4}$  percentage point to overall PCE inflation this year, boosting our forecast to  $2\frac{1}{2}$  percent for 2007 and leaving 2008 unchanged at about 2 percent. The indirect effects of higher oil prices add a few basis points to our forecast of core PCE inflation, but those effects were roughly offset by the slightly larger GDP gap and the slightly higher unemployment rate in this forecast. After the forecast closed last week, we received the CPI and the PPI for February. The core CPI increased 0.2 percent last month, right in line with our projection. However, a jump in the PPI series on physician services suggests that core PCE prices could be up about 0.3 percent in February, a tenth above our forecast. If this estimate is close to the mark, we will revise up our forecast of core PCE inflation in the first quarter to about  $2\frac{1}{2}$  percent. We are not inclined, however, to accord much signal to one monthly

reading, and for now, we are sticking with our forecast for core PCE inflation of 2¼ percent this year and 2 percent in 2008. One reason for keeping the inflation forecast unchanged despite this news on prices is that we have had some low readings on labor compensation. The ECI and average hourly earnings have come in below our forecast; after we adjust for the transitory influence of a jump in bonuses and stock options, the growth of nonfarm business hourly compensation looks to be running below our previous forecast. Looking at the big picture, pressures on inflation do not appear to us to be intensifying, but they also don't seem to be abating much either. For the most part, that is what we had been expecting to see at this juncture. I will now turn the floor over to Karen to sum up developments in the other 190 economies of the world. [Laughter]

MS. JOHNSON. Constructing our outlook for the rest of the global economy this time entailed assessing the information in and implications of varying indicators of activity from different regions, the somewhat weaker prospects for U.S. output growth, and the backup in global oil prices. In addition, we struggled to understand the likely consequences of the episode of financial market volatility that emerged in global equity and credit markets at the end of February as well as the risks to our forecast that this episode might foreshadow. In the end, our baseline forecast for real GDP growth abroad is just slightly stronger over this year and about the same next year as in the January Greenbook. Our projection for foreign inflation has been revised up just a little in response to the higher level of our path for oil prices. The resulting contribution for U.S. real GDP growth this year from the external sector is about neutral and that for next year is a small negative; we now see exports, relative to the January forecast, as contributing slightly more positively to U.S. GDP growth over the forecast period and are projecting an arithmetic negative contribution from imports that is a bit smaller in magnitude, especially this year.

The favorable news for activity abroad was mostly from the major foreign industrial countries. We were particularly surprised by Japanese real GDP growth in the fourth quarter, which in the latest data was an annual rate of 5.5 percent, 2 percentage points above our expectation in January. Household consumption showed some signs of strength—a development that has been lacking in Japanese economic activity for a long time. In addition, private investment spending increased at a double-digit rate. Available indicators for activity in January, such as machinery orders and household expenditures, support the view that solid expansion is continuing, and we have revised up our near-term forecast such that our projected growth rate for 2007 is ½ percentage point stronger. The economic expansion in the euro area continues to firm, and we were surprised by the fourth-quarter growth rate there, as well. The 3.6 percent annual rate of growth recorded for last quarter was 1 percentage point higher than we had expected in January. That strength was due particularly to investment and to export demand. We have revised up our outlook for growth over the forecast period about ¼ percentage point as a result.

Within emerging Asia, real GDP continues to expand vigorously in China and in India, sustaining expansion in the region at an average annual rate of about 6 percent.

We see average growth in Latin America this quarter as having been slowed by weakness in Mexico that is related to softness in U.S. manufacturing production. Mexican growth should rebound in line with the projected improvement in U.S. industrial production, resulting in average growth in the region of about 3½ percent over the forecast period. We have revised down slightly our forecasts for growth in Mexico and emerging Asia relative to the January outlook.

On balance, we do not see the negative implications of the slightly weaker U.S. projection this time as outweighing the indications of robust domestic demand in Europe and Asia. Accordingly, our baseline forecast continues to be for vigorous growth on average abroad. A weaker U.S. outcome than projected is clearly a downside risk for the global economy, however. The rise in oil prices over the intermeeting period erased some of the inflation restraint that the low January level of global crude prices provided. We have added a couple of tenths to our inflation projection as a result, with most of the upward revision projected for the Asian emerging-market economies that are very dependent on imported crude oil.

The heightened financial market volatility that appeared in late February was a global event, with stock prices in several major foreign countries declining 2 to 6 percent through the date of the Greenbook and then retracing somewhat over the past week. Credit spreads widened for risky credit abroad, including emerging-market sovereign risk spreads, and yields on long-term governments bonds moved down in the euro area, the United Kingdom, and Canada as investors shifted to higher quality securities. But in many instances, these moves just brought the particular price or yield back to its level toward the end of last year. Although the drop in Chinese stock prices on February 27 was seen on that day as a contributing factor, market developments on subsequent days support the view that much of the concern of global investors is directed toward the U.S. expansion and, in particular, the U.S. subprime mortgage market. We do not see the market correction to date as a source of significant restraint on spending abroad. In addition, the evident weakness in the U.S. housing sector has limited potential for spillover to economic activity abroad. Accordingly, we have strengthened a little our forecast for foreign real output growth and reduced the magnitude of the net subtraction from U.S. GDP growth implied by the projections for exports and imports. Clearly, global financial market participants are ready to react strongly to any news suggesting less-favorable outcomes on investments. This poses a negative risk to the global outlook as the financial market response to a negative shock may intensify the consequences of that shock for credit extension, spending, and ultimately global growth. On the upside, we have been surprised by the strength of domestic demand in some foreign industrial countries, and we could be underestimating its momentum. In addition, a more buoyant outcome for China is always a possibility.

Last week we received data on the U.S. balance of payments for the fourth quarter, completing our picture for the year as whole. Although the annual total for the current account deficit rose in 2006, the balance for the fourth quarter narrowed quite a bit. That narrowing is due to a reduced trade deficit and a swing to positive in

the figure for net investment income. A decrease in our nominal oil bill largely accounts for the improvement in the trade deficit, but the non-oil trade balance also narrowed somewhat. The smaller bill for imported oil in the fourth quarter resulted mainly from lower prices, although the quantity imported declined as well. The balance on the portfolio portion of U.S. net investment income was a sizable deficit that widened about \$4 billion at an annual rate from the previous quarter. However, the positive balance on direct investment income jumped nearly \$40 billion at an annual rate as receipts continued to be robust and payments fell sharply. The decline in payments was widespread across sectors and countries. The net result was a positive figure for total investment income of nearly \$19 billion.

Going forward, we expect that the current account deficit will resume widening from its reduced, fourth-quarter level and will reach about \$950 billion, or 6½ percent of GDP, by the end of 2008. We project that a widening of the trade deficit will continue, with the oil and the non-oil components of the merchandise balance both becoming larger deficits. However, a positive change in the balance on services will partially offset the deterioration in the deficit on traded goods. The net investment income balance should account for a larger portion of the current account widening. The positive balance of direct investment income should drop back in the near term but then rise slowly to record a small, positive net change over the forecast period. However, the negative balance for portfolio income is expected to increase in magnitude significantly, as our net international investment position records yet greater net indebtedness. This increasing net indebtedness and wider current account deficit will continue as long as the trade deficit remains sizable. David and I will be happy to answer any questions.

CHAIRMAN BERNANKE. Thank you very much. Are there questions?

President Poole.

MR. POOLE. Dave, I have a question related to housing. I gather that a good part of the projection that the drag from housing will work off by the end of this year comes from the belief that sales will gradually clean out the inventory of unsold homes and, once that happens, construction can return to the rate of sales. That's the unsold inventory of recently built new homes that I guess have never been occupied. If you take the housing boom over, say, the three years ending in the middle of last year, was there an accumulation of houses that ran beyond the underlying demographics and income—and the financing costs, too? I'm interested in those longer-run determinants of the equilibrium stock of housing. Did we end up with a stock of

housing that outran the underlying long-run determinants and has to be worked off—in the sense that the underlying determinants have to catch up to the stock that has already been constructed?

MR. STOCKTON. That's possible. We have not taken that view. Overall housing construction had some unexplained strength over the past year, not from a bottom-up demographic addition but just in terms of what we would have expected given the growth in employment, income, and wealth. Admittedly, the evidence is still very tentative, but we think we see some signs of demand stabilizing around current levels so that, in our starts forecast, we'll be able to drive the months' supply of homes back down relative to the low level that it had actually been running from the mid-1990s to the middle of the housing boom. So I don't think we're seeing an excess supply of homes that people just won't want at current prices, or roughly current prices, but that is a considerable risk. Adding up household formations and demolitions—there's a lot of uncertainty about that, and there's a lot of cyclical sensitivity as well to the overall household formation rates. So whether the housing stock outran the long-run determinants is kind of hard to nail down. We see that as a risk, but it's not incorporated in this forecast. If that were the case, there could be a bigger drag on housing activity than we're anticipating.

MR. POOLE. Recovery in that sector could take much longer.

MR. STOCKTON. Yes.

CHAIRMAN BERNANKE. President Stern.

MR. STERN. Dave, I have a question about the significant downshift in employment that you have starting around midyear because I notice that output per hour continues to move along quite nicely throughout the period through the end of next year. Is that just a bet that most

of the expansion on the supply side will come from productivity, or is something else going on there?

MR. STOCKTON. It's a combination of two bets that are probably both risky. One is that in fact productivity will continue and that what we've seen more recently is a little more pronounced cyclical sag in productivity growth and not a sign that underlying structural productivity is weaker than we're estimating. The second bet is that, on the supply side, the growth in the labor force will be relatively weak. Therefore, we will not need to have as much employment growth—

MR. STERN. The unemployment rate does go up.

MR. STOCKTON. Those are two elements of the forecast that we're struggling with. Over the past few months there has been a little evidence perhaps that the participation rate has been a bit higher than our model was forecasting. That might suggest some upside risk on the labor force growth. On the other hand, the productivity figures have probably been running below what our model would have expected, given our estimate of structural productivity.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. Just for clarification, David, from peak to trough in terms of housing starts, what percent change in construction do you forecast?

MR. STOCKTON. We're thinking of a decline something like 35 or 40 percent at this point.

MR. FISHER. So 2.1 million, is that right?

MR. STOCKTON. In our forecast, we're not too far from the bottom. We made the bottom a little deeper this time and put it off just a little bit longer. I said before that we saw signs that demand was stabilizing. In some sense, the adjustment that we've made for these

recent subprime developments suggests to us that there will be another small step-down in demand going forward from where we currently are. That makes the process of working off the inventory, to which President Poole pointed, a little more prolonged. It also puts this housing downturn, in terms of magnitude, very close to the one that occurred in the early 1990s.

CHAIRMAN BERNANKE. Are there other questions? If not, we are ready for the economic go-round. President Yellen.

MS. YELLEN. Thank you, Mr. Chairman. Recent data on economic activity have been downbeat in many sectors, and I agree with the general tenor of the Greenbook that the near-term outlook is weaker than before. Indeed, we have cut expected growth this year almost  $\frac{1}{2}$  percentage point, to  $2\frac{1}{4}$  percent. This pace of growth is substantially below potential, and we expect the unemployment rate to start to edge up fairly quickly. Even relative to this lower baseline, I think the downside risks to the prospects for output growth have sharpened in the intermeeting period. I'm especially concerned about two risks—broader retrenchment in financial markets along the lines that we're seeing in the subprime mortgage market and a further hesitation and faltering of capital spending.

As we discussed in detail two years ago, an asset price bubble inevitably leads to unsustainable imbalances in the economy and a misallocation of resources. The extraordinary run-up in house prices in recent years led to construction and sales booms that couldn't last. So far the adjustments to more-sustainable levels of housing starts and sales have been relatively orderly. However, there is still an overhang of precarious financing from the past relaxed mortgage-lending standards that has to be eliminated. For example, in 2005 and 2006 something like 40 percent of first-time homebuyers put no money down with their purchase. The market is beginning to recognize the size of this overhang and, with the recent deterioration in the



performance of subprime mortgages, is dramatically reassessing mortgage risk. Going forward, we will have to closely monitor increases in mortgage-risk compensation and tightening of credit standards. Such changes, especially if they go too fast or too far, could amplify the housing-sector decline as has been recognized, pushing housing prices and activity down, and with spillovers to consumer spending, they could prove to be a substantial drag on the overall economy.

Despite the recent turmoil in equity and mortgage markets, a reassessment of overall risk has yet to occur. We are still in an environment of low long-term yields, ample liquidity, and what appears to be a generally low level of compensation for risk. For example, I recently talked with the principals of several major private-equity funds, who were not just amazed but also appalled about the amount of money their industry has attracted. [Laughter] One partner said that he would have no difficulty immediately raising \$1 billion. Indeed, one of his biggest problems is would-be investors who get angry at him because he is unwilling to take their money. This unwillingness reflects his difficulty in identifying deals that are likely to yield adequate returns even though, for the buyout firms, debt also is available in what they depict as very attractive so-called covenant-lite terms—perhaps too attractive given the vulnerability of some of the highly leveraged yields. My contacts suggest that some private-equity firms with similar assessments of the shortage of profit opportunities are less restrained and do take additional money, partly because of the large upfront fees that are generated by these deals. So just as we have seen in mortgage markets, the bubble in private equity, as my sources characterize it, and the overabundance of liquidity more generally raise the risk of a sharp retrenchment in credit and higher risk spreads with associated risks to economic growth and, conceivably, even financial stability.

A second, related risk concerns investment spending. It's surprising that, despite the ample financing available, firms have still been reluctant to ramp up their capital spending. Certainly, any precipitous tightening of financing could curtail investment. However, as noted in one of the Greenbook alternative simulations, greater business pessimism about future returns to new capital is also a significant risk. The recent pullback in orders and shipments for capital goods has persisted and deepened more than any of us had anticipated. Even for high-tech spending, which continues to expand, my contacts on the manufacturing side are not very optimistic. Sales of PCs and related equipment were mildly disappointing in 2006, and our contacts don't see the introduction of the Microsoft Vista operating system in January as having generated much enthusiasm among businesses.

Turning to inflation, our outlook for core inflation, like that of the Greenbook, has changed little since January. I continue to anticipate gradually moderating inflation with core PCE price inflation edging down from  $2\frac{1}{4}$  percent in 2006 to 2 percent this year. There are certainly clear upside risks to this forecast, especially given the resumption of increases in energy prices. These risks remain despite some weakening in the outlook for real activity. In principle, the anticipated subpar growth should help relieve inflationary pressures. However, we remain very uncertain about what par is. The continued low unemployment rate, coupled with recent sluggish output growth, suggests via Okun's law that potential output could be growing in the vicinity of  $2\frac{1}{4}$  percent. If, contrary to our assumption, that were the case, any labor market tightness now boosting inflation might not diminish this year.

More-favorable news is found in recent survey evidence on inflation expectations. As many of you have commented in past meetings, inflation expectations are perhaps more influential to the inflation outlook than is the unemployment rate. Their relative stability over

the past several years has probably been a key factor restraining the rise in inflation over the past two years. However, what has not generally been noted is the importance of near-term inflation expectations, those with a forecast horizon of a year or two. Both economic theory and empirical evidence suggest that these near-term inflation expectations are as important as long-run expectations for determining inflation dynamics. The latest Blue Chip and Professional Forecasters surveys both show expectations of core inflation edging down next year. For example, the SPF shows core PCE inflation dropping to 2 percent next year, exactly in line with our own forecast. I also see the general downward tilt in inflation expectations over the next couple of years as contributing to a favorable inflation prognosis.

CHAIRMAN BERNANKE. Thank you. President Moskow.

MR. MOSKOW. Thank you, Mr. Chairman. Conditions in the Seventh District are similar to what I reported last time. Business activity continues to expand at a modest pace. However, while my contacts expressed some increased uncertainty, most of them maintained a positive view about the outlook for the second half of the year. As we know, the two sectors that generated the most uncertainty this round are housing and business investment, and so I want to concentrate some of my comments on those two areas.

On the housing front, my contacts continue to be unsure about how soon the turnaround will be. A director from Pulte Homes saw hints of a better tone in the market but acknowledged that signs were still tentative. He did say that the larger builders have reduced their stock of speculative homes. Another director, who is CEO of U.S. Gypsum, thought it would be a couple of months before he had a better idea whether the market had hit bottom. Furthermore, he thought that, even after the market hits bottom, it would be quite a while before building materials recovered to normal sales levels. As we were discussing, the subprime situation could

be a serious problem for the macroeconomy in a couple of ways. One would be a major spillover to house prices—it's too soon to tell about this now, but new spring listings should shed some light by our next meeting. The other would be significant fallout to other credit market segments, and we don't see this yet either. I contacted both GM and Ford, and they said that the subprime mortgages held by their credit subsidiaries had deteriorated, but they had not seen increased defaults in other portions of their portfolios. Notably, they had not seen any unusual problems in auto loans, and we generally heard this sentiment of a lack of spillover from bankers as well. On the supply side, given the ample liquidity in financial markets, it seems unlikely that the subprime problem will cause major changes in overall credit availability or pricing.

Turning to business investment, none of my contacts reported any major changes in capital spending plans one way or the other. That said, I did sense that businesses had become a bit more cautious, as David mentioned. A CEO of a major bank thought that some of this caution was due to the news in the subprime market, but he didn't think that this was impinging on spending in a meaningful way. As noted by the head of a major private-equity firm, who is on our board, the recent volatility in financial markets has not significantly altered the availability or terms for financing, even for riskier projects. Private-equity firms continue to raise large sums, as Janet discussed. So although I'm more concerned about the outlook, I don't see the forces in play that would generate a major retrenchment in capital spending. Inventories are another factor that has weighed on growth recently. We've heard mixed reports from District contacts about how far along they are in the inventory-adjustment process. In steel, the process seems to be taking longer than expected, but in motor vehicles, both GM and Ford now are generally comfortable with their inventory positions and currently are not planning any major changes in their assembly schedules. Finally, some sectors of the economy appear to be on good

footing. Healthy labor markets continue to support solid gains in consumer spending, and as Karen discussed, growth abroad continues to support export demand.

After balancing all the factors, we marked down our near-term forecast for GDP a bit but retained the basic contours of our previous projection. The most important difference between our forecast and the Greenbook is that we do not see as much short-term weakness, but the uncertainty surrounding this forecast has increased. By itself, the change to the growth outlook this round would suggest slightly less inflation risk, but other factors point to continued concern about inflation. The past couple of readings on consumer prices have been disappointing. Oil prices are higher than at our last meeting, and unit labor costs accelerated noticeably over the past year. Furthermore, labor markets remain tight. So while the benefits of some factors, notably the earlier declines in energy costs, will be transitory, pressures from high labor costs are likely to persist. Markups remain high enough to absorb some cost increases, but these margins could evaporate quickly, as they did in the late '90s.

In the end, we did not materially change our outlook for inflation. We continue to project that core PCE prices will increase about  $2\frac{1}{4}$  percent both this year and next. This inflation rate is too high for my taste, and I think for many of us, and I'm not confident that inflation will moderate adequately as we move into 2009. One reason for my concern is highlighted in the Bluebook—namely, that the private sector seems to be betting that our inflation objective is 2 percent or higher. So I continue to think that over the forecast period as a whole the risks to price stability exceed the risks to sustainable growth.

CHAIRMAN BERNANKE. Thank you. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. The economic picture in our region has changed little since our last meeting. It seems as though I've used that phrase almost every

meeting for the past three meetings. Economic activity is expanding at a moderate pace in our District. Business contacts expect that pace to continue in the coming months. According to our March survey, manufacturing activity in our region remained flat, and we've seen little change in this activity in the last six months. The general activity index actually fell from 0.6 in February to 0.2 in March, which are both essentially the same and very close to zero. But there were some positives to be read from the survey. First, both the new orders and shipment indexes improved this month. Second, the diffusion index of capital expenditures, which reflects firms' planned spending six months from now, moved up to 25 percent—a level that is considerably above the average level of 18 seen over the past two expansions. Third, other indexes of future activity remain relatively strong. Finally, in response to a special survey question and ignoring merely seasonal changes in activity, twice as many of our firms said that they expect their own production to accelerate rather than to decelerate in the second quarter compared with the first quarter—46 percent, compared with 23 percent. I take these as signs that our manufacturers see the soft patch as temporary rather than more prolonged, and this is consistent with the anecdotal evidence gathered in talking to the business contacts in our region. Thus, business sentiment among our manufacturing firms appears to have changed little since our last meeting.

There has been little change not only in overall activity but also in the pattern across sectors. Housing continues to weaken. Area homebuilders that we surveyed in February indicate that sales continue to decline, and high inventories continue to hold back construction activity. Nonresidential real estate markets in the region remain firm, but construction has not gained any appreciable strength. One of my contacts in a major bank sees continued strong loan demand, however. Businesses that come to him for loans have strong balance sheets, their profits remain good, and from his perspective that is supportive of continued business investment

going forward. This may be suggesting that business investment, which—as many of us have been concerned about—has been weak in the past several months, may be on the verge of rebounding. Labor markets in the region remain tight. Employment in my three states has grown at a pace of 1.3 percent over the past three months ending in January, an acceleration from the 0.8 percent pace over the past twelve months. The unemployment rate has held steady, and employers continue to complain of difficulty finding both skilled and unskilled labor.

On the inflation front, prices for industrial goods continue to move up, but retail price increases have not been widespread. However, there are signs of increased pressures on wages and salaries. Wages in low-skilled jobs in New Jersey and Pennsylvania have certainly increased because of increases in state minimum wages, yet the acceleration in wages appears to be more widespread. Employers in a number of industries have said they had to raise salaries much more this year than they did last year in order to hire and retain workers in certain professional and managerial occupations as well as high-skilled workers in a variety of jobs.

In summary, business activity in the region continues to advance at a moderate pace—I'm looking for other words to substitute for “moderate,” which gets old after a while. Our business contacts expect this moderate pace to be maintained in coming months.

Turning to the national economy, at the time of our last meeting, the data on real activity had come in stronger than expected, and inflation, while still elevated, had moved down a bit. Since then, the data suggest perhaps a somewhat weaker near-term growth outlook and a backsliding in my view in the progress on inflation. If these recent data are indicative of the future, then we are in a much less comfortable position than we thought we were a few weeks ago. I think there is still good reason to believe that the weakness we are seeing on the real side of the economy remains confined to the effects of the housing correction and to a lesser extent of

the auto correction, which should moderate over the year, and that the fundamentals underlying the economy remain somewhat strong. I think that labor markets will be considerably firmer than in the Greenbook forecast and that the consumer sector will also hold up in part because of that.

It's particularly difficult to infer trends from the data from this past January and February. A sizable swing in temperatures from one of the warmest Januarys on record to one of the coldest Februarys has led to large swings in both seasonal factors and the economic data more broadly. So I think that we need to be a little more cautious than usual in trying to interpret these volatile month-to-month numbers. That said, I must admit that the uncertainty surrounding my own forecast that growth will soon return to trend has increased since our last meeting. The recent decline in new orders over the past several months suggests that the weakness we've seen in business investment in the fourth quarter may linger a little longer than expected, despite healthy business balance sheets and positive investment and business sentiment. Although in my view the reassessment of risk in the subprime mortgage market suggests that this market is working as it should, the overall weakening in credit conditions in the mortgage market increases uncertainty as to whether the housing correction will be contained or whether it will spill over into other sectors of the economy. Thus, although I'm not really ready to abandon my forecast, I do think my uncertainty of that forecast has increased somewhat.

At the same time, I'm less convinced that inflation is moderating and that we're making sufficient progress toward price stability. Perhaps I really should say that I am more concerned that we are not. The twelve-month change in the core CPI was 2.7 percent, and the three-month change has reaccelerated. I find the upward trend in core inflation over the past year, from 2 to 2¾ percent, troubling. I take some comfort in the fact that inflation expectations have moved



down somewhat. Even ten-year expected inflation in our first-quarter Survey of Professional Forecasters moved down to 2.35 percent from 2.5 percent. That's a seismic event, [laughter] given the stability of that number over the past eight years. However, these expectations continue to lag, not lead, inflation. So I remain concerned with the inflation numbers that we are in fact seeing. Thus, I find myself back to where I was this fall. A slowdown in real economic activity, if sustained, would suggest a lower equilibrium real rate, but inflation remains elevated. At this point, I would allow for some implicit policy firming implied by a constant fed funds rate unless we see stronger evidence of a declining economy. Thank you.

CHAIRMAN BERNANKE. Thank you. President Hoenig.

MR. HOENIG. Mr. Chairman, I'll spend a little time on the District. I think you can describe it as almost robust, recognizing that we are a District that exports a lot of raw materials and byproducts of raw materials. We have had solid job gains led by further tightening in our labor markets, and recent revisions suggest that 2006 job growth was stronger than we had previously thought. Mining led the job growth, but we also saw strong gains in professional and business services and in leisure and hospitality. In fact, our ski season this year was a record, as the snow was also a record. Besides shortages of skilled labor, of which we are constantly getting reports, we are seeing also shortages of some lower-skilled workers as well—in the temporary employment area, for example.

It is also noteworthy that our manufacturing activity has been strengthening. We have received good reports from our directors and advisory council members that it actually strengthened in February. Lower inventories of finished goods led to a surge in order backlogs, and most industries reported robust activity led by machinery and high-tech equipment

production. In addition, plant managers expressed greater optimism about the outlook for employment and capital spending as they look forward, not as they're looking right now.

Turning to real estate, housing activity may have stabilized. We have suffered like the rest of the country in that area, especially in our Denver market, where we have had record levels of foreclosure. But beyond that—and even there—we have seen some stabilizing in our housing market, and our commercial activity remains really quite solid. Housing permits and the value of new residential construction held steady in February. In addition, the buildup of home inventories has actually slowed, and District contacts expect inventories to decline gradually in the coming months, as they are now seeing things turn. Nonresidential construction remains strong, with absorption of office space increasing in most cities and vacancy rates continuing to decline throughout our region. Commercial real estate contacts expect more new construction in the months ahead. They are actually seeing it come on the drawing board. They also reported that office prices and rents increased further, even though sales were somewhat flat over the last month or so.

Farm financial conditions have improved overall, with increased crop prices that are being driven by the expanded ethanol production. USDA forecasts that net farm income will rise about 10 percent this year. Strong income prospects have boosted land prices—significantly, I might add, in some parts—and solidified farm balance sheets. One piece of information I would note is that ethanol is a boom industry right now in the region—not in just our region but in the area around Nebraska and Iowa. In that area, 100 plants are producing; there are 50 on the drawing boards, but we are seeing some backing away from that. Three projects have been pulled back in Oklahoma recently, and one more in Kansas. But still, a lot are going forward, and it gives me some pause because it has the tone of too much, too quickly, and the real

economy will suffer if it backs away from that development. Anyway, on balance, the regional economy is very strong right now.

Turning to the national outlook, I would say that, on balance, although I have revised my outlook down somewhat in 2007, I still have it projected as growing on the whole for the year better than 2½ percent. So my outlook is more optimistic than that of the Greenbook. There are some reasons for that, at least that we're thinking through. Like others, we see housing stabilizing, perhaps taking a little longer to come back, but inventories seem to have stabilized. As those inventories are worked off through the first half of this year, we think housing should improve through the rest of the year, at least given where the fixed interest rates lie. We're also seeing that the secondary effects of the slowing of the housing market seem contained at the moment, so that slowing is not spilling over, and the containment is being strengthened by the facts that personal incomes are actually continuing to improve and that we have a good labor market. So those factors are important. Also, as we discussed earlier, foreign demand is strong, and the outlook seems to be good. Finally, federal spending—the fact is that we're fighting a war, and you tend to spend more over the course of a war—is picking up I think. Coffers are strong, and states are spending at a fairly rapid rate. So a lot of factors are affecting demand, and therefore I think that this economy will pick up as the year goes on.

I recognize very clearly that there are some risks to keep in mind. One is that the housing market could worsen, and there could be further spillovers. I'm very mindful of that. But on the other side, I do share some of the concerns raised by others in terms of the inflation outlook. Inflation has not come down as much as we had hoped, although I'm still projecting that it will so long as we keep the rates at their current levels. But there are some upside risks with the tighter labor market and strong demand, and we could see energy prices putting more pressure on

it. So it's a mixed bag perhaps with, on balance, some upside risk as well as downside risk to this economy. Thank you.

CHAIRMAN BERNANKE. Thank you. President Fisher.

MR. FISHER. Mr. Chairman, I was reminded the other day that the original story of Goldilocks was not quite as we later came to learn it. The first version that was drafted was actually called Silver Hair. When the three bears came back to the house, the elderly lady, not the little girl, jumped out the window. That was the beginning of the Goldilocks story, which was later adapted to a more palatable commercial story. [Laughter] I'm not ready to jump out the window yet, but I do have some concerns, and I'd like to talk about three areas—the international side, where the porridge seems to be hot; the domestic economy, where it seems to be cooling; and in my District, where it seems to be just about right.

So, first, on the international side, just to complement some of Karen's points, our research and anecdotal findings show that global capacity utilization has moved to the higher end of its range. World unemployment rates have been falling. Capacity expansion seems to be underpaced, even though there is some structural change in utilization, and it seems insufficient to meet demand or quell inflation. Prices for imported U.S. goods have clearly moved away from deflationary trends to neutral or slightly inflationary, as I reported before—and, by the way, across nearly all product categories. The growing tightness in the market for skilled foreign labor may be the contributing factor. A very large foreign retailer operating in China reports that they are seeing wage price inflation for the first time in the stores that they are opening and operating. As one of the high-tech CEOs mentioned to me earlier, even the Indians that they now import, not by bringing them physically across but by fiber optic cable, are being priced much more expensively. If you add turnover, these workers have become increasingly

expensive. We see pressure from the shippers, noting that there are continued upward pressures on fleet utilization, spot prices, and port congestion. Airlines are reporting stronger international loads and price traction than in the United States. Express shippers and logistic companies are reporting double-digit growth in the year to date in Europe and still higher rates of growth in Asia. So, on balance, our view from the Dallas Fed from the international perspective is that international data and anecdotal evidence point to some excess demand outside the United States with concomitant increases in price pressures.

Turning to the domestic scene, we appear to be sailing between the Charybdis of a slowdown in the economy and the Scylla of higher inflation. I want to talk about both. We're both measuring and hearing of greater fragility in the domestic economy relating to economic growth and the kind of excess that is leading to the financial turbulence that Janet spoke about. I'll turn to that in a second. Also, we're not encouraged, despite our wishful thinking, on the inflationary front. Let me just give you some points other than those that have already been mentioned, particularly other than capital spending, which we see slowing across the nation. Express shippers, logistic companies, report 0.2 percent growth year over year for domestic ground operations and weaker-than-expected overall growth, between 0 and 0.5 percent on balance in the year to date—substantially less than they expected. Rail car loadings are flat to down, reflecting the decline in demand for materials for housing and a decline in durable goods orders. Truck tonnage is off, and orders for replacement of fleets seem to be reflecting more than the effect of these new engine regulations that are going into place. I'll give you one data point mentioned: Peterbilt's order book is one-third of what it was last year. Airlines report weaker domestic booking and slackening demand relative to last year. With regard to the retailers, I have been urged to be cautious in analyzing the data, first because last year was in

essence a fifty-three-week year because of the late holiday or a thirteen-month year due to gift cards. Our contacts report continued strength for high-end retailers, 3 to 6 percent unit growth in the first quarter for middle retailers like Kohl's and JCPenney, and significantly lower growth rates with companies like Wal-Mart praying that the advancement of daylight savings time will lift them from flat growth to 1 to 2 percent comps. Finally, restaurants report continued movement down the food chain—no pun intended—[laughter] from the middle-income eateries to the McDonald's of the world. If you notice McDonald's reports, they are quite stout, whereas the middle-income eateries are suffering. In short, we expect slower top-line growth across the board.

I want to talk for a minute about housing. One of my contacts at Wal-Mart mentioned that, when they recently surveyed their customers, concerns about housing did not even rank in the top ten of consumers' concerns. Despite that, a large housebuilder, whom I mentioned in previous conversations around this table, says that they have gone from monsoons to scattered thunderstorms, and another reports a decline in the need to grant concessions. Yet both are concerned about subprime and alt-A "infection," as one called it. Going back to our previous conversation, one of the builders, whose average home price exceeds \$300,000, has through thorough analysis just discovered that 40 percent of last year's builds were financed by alt-A mortgages. If you look at the security analysis for that particular company, the best guesstimate is 20 percent. So, being from the Clinton Administration, I'm a bit worried; I'm getting to the point where "don't ask, don't tell" may be the best approach to interviewing some of these homebuilders. Clearly, they are concerned. They have an overstock of inventory, and they're beginning to cut back significantly on activity. If you remember, David, originally I did talk

about a 25 percent peak-to-trough correction when you were not quite at that number. Now I've caught up with you. I'm at 40 percent at a minimum and quite concerned about it.

I'm also concerned about what President Yellen referred to as a possibility for a retrenchment in the credit markets. I point, as others have done, to the significant oversupply of private-equity capital. To give you a specific example, in the case of Texas Utilities, between a Friday and a Wednesday, the two principal investors lined up \$2.5 billion apiece, another billion from five other equity investors, and in the end over \$50 billion of committed capital from the banks in a two-day lineup period, only half of which was used. So, Mr. Chairman, in short, in the domestic economy, I'm concerned that the tail in terms of a recession has not become slimmer as I mentioned last time. I would redact those words. I believe it has become fatter, and I believe that financial market turbulence has a potential to become greater.

As to the Scylla of inflation, I keep telling myself, David, that with the passage of time we'll see improvement, that one month's set of numbers such as we had in December does not a trend make. I tell myself that two months' numbers, like those we saw in December and January, do not a trend make. But the numbers are less than comforting. On a six-month basis through January, both our trimmed mean at the Dallas Federal Reserve Bank and your PCE excluding food and energy are stuck at 2.1 percent. On a twelve-month basis, the trimmed mean was stuck at 2.5 percent, and your PCE excluding food and energy was 2.3 percent. The recent CPI report was hardly encouraging. Sixty-eight percent of the components rose 3 percent or more. To be sure, there are tamer OER readings, but they're being offset by a pickup in core goods inflation. I continue to worry about the political effect of this kind of inflationary run. I note yesterday's headline in the *Christian Science Monitor* stating that "inflation is eating up U.S. wage gains."

On the regional side, what I've reported above is reflected to some extent in the Eleventh District. Growth has slowed, but housing prices are stable, and housing inventories are thus far healthy. Yet we continue to experience significant wage price pressures. Our dynamics are much stronger than those of the rest of the nation. One of the credit card companies reports that sales using their cards in our region were up 10.5 percent year over year through February, versus 1 to 4 percent on the eastern and western seaboard.

In short, Mr. Chairman, I see geographic dispersion in the growth patterns—strong growth overseas, relatively strong growth in our District, and a developing worrisome growth scenario for the rest of the United States. We see less abatement of inflation than we had hoped for. With regard to preparing for tomorrow's discussion about what to do about it, I find myself on the horns of a dilemma. I would say that the risks are more evenly balanced, and yet the tail of less growth and the risk of recession and the other tail of awfully stubborn inflation have fattened and not trimmed. Thank you.

CHAIRMAN BERNANKE. Thank you. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. Overall, economic activity in the Fifth District expanded modestly in recent weeks, though performance across sectors remains uneven. Growth is centered in the services sector, where moderately positive readings continue. Real activity has recovered somewhat in recent weeks, and big-ticket sales have posted modest gains after two months of quite weak readings. In manufacturing, our survey respondents continue to report a downward drift in activity. They remain optimistic about their future prospects, however, though many comment on generally weak current demand. Labor markets remain tight in most jurisdictions, with the standard reports of spot shortages of skilled workers, but wage pressures are reported to be moderate. We continue to hear of some reasonably firm housing



activity in a number of District localities. Home prices remain generally flat, though builders are offering more incentives to buyers. Inflation pressures appear to have moderated in March according to our latest survey, but manufacturers and service providers expect price pressures to increase modestly over the next six months.

On the national level, risks seem to have risen lately, but my sense is that prospects are still reasonably sound. Subprime mortgages, obviously, have dominated the financial news in recent weeks. Concerns about the welfare of families suffering foreclosure are quite natural, and anecdotes about outright fraud suggest some criminality. But my overall sense of what's going on is that an industry of originators and investors simply misjudged subprime mortgage default frequencies. Realization of that risk seems to be playing out in a fairly orderly way so far. Mortgage-backed securities have lost value as risk spreads have widened, and there have been insolvencies among firms that specialized in this sector. The updating of risk estimates in light of recent experience will lead to higher borrowing costs in the affected market segments, and at the margin this increase could shift some households from homeownership to renting. But in my judgment, that isn't likely to affect the net demand for housing units. Notably, we have not seen broader risks to credit availability in other markets or to the financial safety net. Perhaps the greatest economic risk posed by recent subprime developments is legislation that impedes the availability of credit or that provides financial support ex-post that was unanticipated ex-ante but affects private decisionmaking henceforth, somewhat like ad hoc disaster relief.

Housing construction continues to contract, of course, and inventories remain elevated. The choppy winter data make it hard to gauge the descent, but overall home sales seem to be holding steady, and we haven't heard anything locally that suggests a renewed contraction in demand. So the housing outlook hasn't changed much for me. However, the recent weakness in

business investment has been disappointing. One would expect soft patches related to housing, autos, and the new truck regulations, but the broader sluggishness is a bit at odds with the generally favorable fundamentals. I still expect this investment to pick up ultimately, although I have to admit that the recent data have left me a bit less certain, especially about when. The outlook for consumer spending remains fairly healthy, though. Real disposable income growth has been powered by continuing gains in employment and firmer wage growth. So all in all, I still think the current episode of below-trend growth is fundamentally a transitory phenomenon that will most likely be behind us by the end of the year, although the recent weakness in business investment suggests more downside risk than before.

Core inflation continues to firm, and it now seems clear that the fourth quarter's energy-induced lull is over. We have yet to see much sign of the long-awaited easing in resource utilization. It's not obvious that we will be getting any help from labor costs any time soon, and inflation expectations remain centered at or above 2 percent. So to me, the prospects for moderation in inflation remain tenuous. I continue to believe that, by summer, growth concerns are likely to be behind us, and we will want to act to reduce inflation, which we recognize is higher than we want. Thank you.

CHAIRMAN BERNANKE. Thank you. President Pianalto.

MS. PIANALTO. Thank you, Mr. Chairman. Comments from my business contacts confirm the softening in economic activity that is depicted in the Greenbook. Most of the people I talked with during this intermeeting period confirmed the slowing that we are seeing in the national data. But at the same time, they expect that business will improve over this year. My business contacts are still planning to add modestly to staff and to expand output, although their capital spending plans are not particularly ambitious this year. A number of my business

contacts told me that the dollar depreciation is finally having an effect. They are getting more orders and are being asked to quote more jobs from foreign customers.

I have recently had conversations with CEOs of the large banks from my District, who have an interesting perspective on the ongoing turmoil in the subprime mortgage market. They don't seem to be particularly concerned that the situation in the mortgage markets is going to be substantially worse than is already factored into the admittedly weak housing forecast. But they are concerned, as President Yellen mentioned in her comments earlier, that the subprime mortgage problems are symptomatic of broader issues that could spill over into hedge funds and private-equity funds—both of which have become an increasingly important source of funding for business investment activity. They worry that retrenching among managers of these funds could adversely affect business confidence more generally. Their comments resemble the alternative Greenbook scenario labeled “Business Pessimism with Spillovers.” The difference, however, is that my business contacts are suggesting that the problems could originate in the financial sector and spill over to producers' expectations.

Turning to inflation, the volatility in the monthly retail price numbers, even in the so-called core measures, will make it difficult to clearly perceive the very modest progress in the inflation trend that appears in the Greenbook baseline. Given the usual noise in the price data, work by my research department indicates that identifying a break in the inflation trend on the order of about ½ percentage point with a fair amount of certainty can take somewhere between a year and a half and two years after the break has in fact occurred. While I believe we are still on a course that leads to a lower inflation trend, the path we take to get there will not likely be a smooth one, and there will be times that will test our nerve. Indeed, as I look at the data today, I would judge that the downside risk to the real economy has increased somewhat. Still, in my

view the primary risk we face is that inflation could remain stuck higher than either I or the Greenbook foresee. Under these conditions, I think two qualities are essential—patience and clarity. We need to be patient so that we don't become unnecessarily aggressive in trying to foster lower inflation in a softening economic environment, and we need clarity so that the public does not come to see our patience as indifference to the current inflation trend. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Minehan.

MS. MINEHAN. Thank you very much, Mr. Chairman. Perhaps unlike in the rest of the country, most of the recent cyclical data point to some reasons for optimism about near-term growth in New England, with the possible exception of the rate of foreclosure initiations related to subprime mortgages. The annual benchmark revisions by the BLS paint a happier picture of the current state of regional job growth, especially in Massachusetts and Connecticut. The overall message is that the region has been growing at a pace that is about at its long-term trend and has been adding jobs consistently in recent months. This picture is a bit different from the one we've been seeing for some time.

The region's unemployment rate remains about at the nation's, and demand for skilled labor, as measured by both online and newspaper help-wanted ads and by anecdotal reports, is quite strong. Indeed, many continue to note that hiring the skilled workers they need has been difficult. Both temporary-help service firms and software and IT firms report strong demand for labor, particularly to meet finance and technical positions and to meet a growing backlog in activity in high-tech businesses. This aspect of the region's labor market may be pulling some discouraged workers back into the labor force, as reflected in the perhaps temporary uptick in unemployment. Reflecting this better news on regional job growth, the Philadelphia Fed's

coincident economic indexes point to economic activity in the region's two largest states that is on a par with national growth. When we surveyed a wide swath of retail contacts, we saw a bit of gloom on the retail side. But the fact that in New England you have an array of very small companies, sometimes in unique circumstances, may have given a little downbeat sense to the retail climate. The reports from larger retailers in the survey—and we have a couple of them—show solid year-over-year growth. Manufacturing employment continued to decline, but manufactured exports last quarter rose at a pace just a bit slower than the nation's and were buoyed by airline-related products, fabricated metals, and general machinery. As I've noted before, downtown vacancy rates in most of the cities in New England are declining, as are suburban office vacancies; rents are rising; and one or two corridors fanning out from Boston are reportedly hot sites for new biotech firm locations. Business confidence, as measured by local surveys, is up, as is consumer confidence. So, overall, things are not too bad.

A concern among this mostly brighter news is the rising rate of initiations of real estate foreclosures, especially those related to properties financed with subprime adjustable-rate mortgages. According to data from the Mortgage Bankers Association, whether one looks at the rate of total foreclosures or at the pace of foreclosures among just subprime mortgages, initiations have risen rapidly in New England from a very low base and now outstrip the nation's. This is not a contest you want to win. Anecdotes abound about individual borrowers lured into what appear to be quite inappropriate mortgages, and the Federal Reserve Bank of Boston has been working with local bankers' associations and the Massachusetts Banking Department and others on outreach and education. Why New England generally, and Massachusetts specifically, should be outstripping the nation in this area isn't really clear. The local banking industry does not appear to have played much of a role in subprime lending, nor

were we an area of bubble-like real estate growth, though clearly prices rose rapidly in the region over a fairly long time. The detrimental effects to local communities from the rise in foreclosures and the potential for negative political fallout—not unlike what President Lacker mentioned—seem obvious.

On the national scene, the incoming data on the real economy, with the possible exception of job growth, have been slower than I expected. Inflation data, if anything, have been higher. The picture is not comforting, and it is complicated by questions related both to the housing market and the surprisingly slow pace of business spending. Many people around the table have mentioned both those things. The degree of national fallout from problems in subprime mortgage lending is a question right now, as it bears both on the pace of recovery in residential real estate investment and on the potential for wider spillovers from housing to consumption. At present, we in Boston, like the Greenbook authors, don't expect that subprime mortgage problems will by themselves have much of an effect on overall growth. But we do have a concern if these problems lead to tighter lending standards, making mortgages and other borrowing more difficult to obtain and thereby exacerbate housing inventory overhangs, extend the current period of sluggish new home starts, and create further downward pressure on home prices. So far, we don't see much of that happening. Trends in overall market and banking liquidity, mortgage interest rates, and new mortgage issuance are all positive. We think that those trends, combined with positive consumer home-buying attitudes, paint a reassuring picture that some of the downward trends will not be as severe as they otherwise might be. Indeed, I spoke to members of the advisory board of Harvard's Joint Center for Housing Studies in late February. The group was composed of about fifty major homebuilders and major suppliers to the building industry. They were in a bit of collective shock regarding the rapid deterioration

that they saw in their industry from late last year into the current quarter and seemed to be focused on inventory and cost control rather than on profits this year, which they didn't expect. However, they saw continuing spending on home improvement, growth from commercial construction, and strength in non-U.S. markets as partial offsets. No one in the group mentioned the subprime issue or potential problems in mortgage financing, but that may have just been the fact of the moment. It was actually the day before the market break in late February, so it's possible that they are not thinking along the same lines today.

We have also been asking ourselves why business fixed investment has been so slow relative to fundamentals. We had been assuming that this inexplicable trend would right itself and that growth of producers' durable equipment would show greater signs of health, but that hasn't happened. We, like the Greenbook, have written down expectations regarding PDE. I'd really like to be wrong on the downside regarding this area, as it worries me a bit more than subprime mortgages or any of the recent financial market ups and downs. If businesses lack the confidence to invest in new equipment as much as they might be expected to given the fundamentals, how much longer will they continue to hire staff? If job growth slows, what will happen to consumption? To date, both hiring and consumption remain pretty solid. But while I saw some upside risks here at our last meeting, now I'm a little worried on the downside. In view of the incoming data, we have written down our forecast, much as the Greenbook has, and we have joined the Greenbook in a lower estimate of potential. We see growth a bit above 2 percent this year, rising to the mid 2s in '08, with slightly rising unemployment and only slightly slowing core PCE inflation.

However, as I probably implied before, I think the risks around this forecast on both sides seem to have risen. Will housing trends and the possible effects of diminished business spending

affect the resilient consumer more than we now expect? Will the underlying pattern of core inflation continue to surprise on the upside, with the moderation we expect remaining mostly in the forecast? I don't mean to overreact here. There are positives. External growth is strong. Fiscal spending at both the state and the national levels should be supportive. Financial markets, though certainly a bit more volatile and nervous, remain accommodative. Perhaps the downside risks to growth that I see are simply the ebb and flow of the U.S. economy continuing its transition from an above-trend rate of expansion just a year ago, not unlike the slow patch we saw in the late summer and early fall of last year. All in all, I remain somewhat more concerned about risks on the inflation side than about risks to growth. But it does seem to me as though the balancing act in meeting our two objectives has gotten a bit more difficult.

CHAIRMAN BERNANKE. Thank you. President Minehan, could you just say a word about your outreach on the mortgage problems?

MS. MINEHAN. We have done quite a bit of work with the Banking Department of the State of Massachusetts and with the Massachusetts Bankers Association. We have had meetings with those two groups in many of the affected areas around Massachusetts, basically looking to provide education. We've done some materials on the education side. Obviously, once you're in the midst of a foreclosure, education isn't all that helpful. The Banking Department has been trying to bring along local lenders to see what they can do to create a refinancing situation for borrowers. We're not part of that particular conversation, but we have been part of the outreach that the Banking Department has been making.

CHAIRMAN BERNANKE. Well, we here in Washington expect to have to answer a few questions about the subprime situation, and we would be very interested in anyone's



experience. If any other Reserve Bank is involved or has any plans, we'd be interested to hear about them.

MS. MINEHAN. I think we recently forwarded some information to Governor Kroszner about this.

MR. KROSZNER. I haven't received it. If you sent it by mail, it could take a while.

MS. MINEHAN. No, no, no—I know that. [Laughter] I think we did it by e-mail, and someone in your Community Affairs area may be in the process of passing it along.

MR. KROSZNER. Okay, great.

MS. MINEHAN. But I have a copy of the e-mail in my Blackberry.

CHAIRMAN BERNANKE. They have to check the e-mail for anthrax here. [Laughter]

MS. MINEHAN. I wondered about that. Don didn't get one yesterday.

CHAIRMAN BERNANKE. On that note, why don't we take fifteen minutes for coffee and come back around 4:40 or a little after. The coffee is in the anteroom.

[Coffee break]

CHAIRMAN BERNANKE. If we could reconvene—I see a two-hander from Governor Kroszner.

MR. KROSZNER. I just wanted to mention with respect to foreclosures and wanted to double-check my facts—a note had been sent out from the Board's Consumer and Community Affairs Division to your consumer and community affairs groups concerning your activities in mortgage foreclosures, and Jeff Lacker fortunately has invited me to a conference two days from now, at which I will be speaking. Unfortunately, I will be unable to be at the hearing at which Sandy Braunstein will be appearing. Regardless of what you might think of me in this regard, please be sure to get things in to help Sandy out. I think a lot of good activities are being done in all

the regional Federal Reserve Banks, and if we could just get a little information to her so that she has a few examples to give, that would be very helpful. Then we will follow up in the longer run because we hope to do a larger program here on some of these issues. Thank you, Mr. Chairman.

MR. LACKER. I'm sorry. What are you looking for examples of—mortgages we foreclosed on? [Laughter]

MR. KROSZNER. Just the opposite—Sandy could use examples showing that we've done some outreach to help deal with some of the challenges of foreclosure. Are there educational efforts or studies that have been done?

MR. MISHKIN. We want to be the good guys.

CHAIRMAN BERNANKE. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. Thank you for the earlier welcome. Over the intermeeting period, aggregate economic activity in the Sixth District showed signs of slowing. Manufacturing activity appeared to soften, with the majority of reports suggesting declining orders. Retail reports pointed to a slowing pace of sales. The BLS employment data revisions for 2006 supported the view that Florida's economy has decelerated considerably in the wake of the housing downturn. Sales tax data suggest that retail spending in Florida actually declined in late 2006. Recovery on the Gulf Coast of Mississippi and Louisiana continues to proceed more slowly than hoped. The immediate post-hurricane boost to spending has waned, and the problems of housing and insurance availability remain largely unresolved.

The biggest concern for the Sixth District continues to be in real estate markets. As stated at the last meeting, it appears to be too early to suggest that the region's housing situation has stabilized or that the housing sector's drag on the District has ended. Reports indicate that many areas in Florida are experiencing dramatic declines in sales of single-family homes and condos,

even while new product continues to come onto the market. As a result of this oversupply, construction plans have been cut back. In January, permit issuance for single-family homes in Florida was 57 percent lower than a year earlier. For the rest of the United States the decline was 25 percent. Permits for multifamily development declined 40 percent versus a 7 percent decline nationally. This situation is most extreme in Florida. Interestingly, we do hear anecdotal reports of improved potential buyer traffic in Florida, but that improvement is not translating into sales. Buyers appear to be expecting lower prices. In the other states in the District, single-family permits were down 19 percent in January, less than the decline nationally.

Regarding the region's exposure to nonprime and subprime mortgages, the concern is again mostly in Florida. According to the Mortgage Bankers Association, over 9 percent of mortgages serviced in Florida in the fourth quarter of 2006 were subprime ARM loans; this exposure was second only to Nevada, which was at 13 percent, and compares with 6½ percent nationally. In contrast, the exposures of the other states in the District were all at or below the national level. Reports from banking contacts suggest that delinquency rates on nonprime ARM loans in Florida will continue to trend higher this year. Reduced access to credit for nonprime borrowers will slow the absorption of the current oversupply of housing product and will put downward pressure on house prices. Also, the boom in condo conversions and condo construction in 2005 and 2006 drained the supply of apartments in many areas in the District, and landlords have been able to increase rental prices as a result.

Turning to our perspective on the country as a whole, much of the slowdown in real activity that occurred in the second half of 2006 reflected weakness in the housing sector. If weakness remains contained within the housing sector, the outlook, although subdued, is acceptable in our view. Much of the recent moderation in real activity is consistent with what we had forecast several

months ago. Realization of this moderation does not in itself imply that we should revise our outlook. Some professional forecasters continue to anticipate that real GDP growth will rebound to close to its trend rate of 3 percent for the rest of 2007, in effect discounting any drag from prolonged weakness in residential investment. The Atlanta Fed staff forecasts for real GDP growth are consistent with these optimistic commercial forecasts. The current Greenbook forecast implies a slightly weaker outlook from extended weakness in residential investment and weaker growth of consumer expenditures, perhaps incorporating some signal from the recent financial distress in subprimes. Despite slight differences in these forecasts, the outlooks do not suggest recession at this point. Measured core inflation remains in excess of 2 percent. Our staff consensus forecast sees core inflation continuing in the range of 2 to 2½ percent for all of 2007. This forecast is a bit less favorable than the Greenbook forecast, but we have no sense that the inflation outlook has deteriorated significantly.

The implications of the outlook for real output and inflation are that current policy is set about where it should be. The U.S. economy has performed about as expected. Financial market turbulence and subprime mortgage distress raise potential concerns that should be monitored, but for now it seems that the outlook has not substantially changed. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Stern.

MR. STERN. Thank you, Mr. Chairman. As others have commented, the latest numbers on the performance of the national economy have been mixed, which is to say less positive than I had expected; and I take the Greenbook's point that growth is subdued this quarter. I don't view the recent news on inflation as especially favorable, but I don't find it overly alarming either. The question for me is, Do the latest readings have implications for economic performance beyond the current quarter—that is, say, over the next several quarters or so? At this stage, my answer to that

question is “no,” in part because I want to avoid getting whipsawed by marking down the forecast now only to mark it back up in May or June. More fundamentally, I think that continued gains in employment and income, sound fundamentals for business investment, sustained increases in government spending, and generally liquid financial conditions are likely to maintain the expansion. I also think that the trade situation may turn out to be a bit better than that depicted in the Greenbook, assuming that energy prices don’t take off a lot from here. I also take some comfort that, at least until now, I haven’t viewed my forecast as especially ebullient. By the way, I do think that the housing correction still has some way to run, as I’ve commented before, largely because of the overhang of unsold properties.

To get some additional evidence on the latest developments, we called a number of our contacts in retailing late last week to see if we could detect anything new in consumer spending. The short answer I would say is “no.” A clear trend was not apparent from our contacts. Some reported significant increases in sales recently and were optimistic about prospects. Some experienced sales decreases and were at the least cautious, and some said sales were unfolding more or less as anticipated. Overall, this is probably modestly good news, since at least there was no obvious break in consumer outlays. As for inflation, I would judge that the situation has not changed appreciably, and so I continue to expect modest deceleration over time. I don’t sense that price pressures are building at this point, but you have to look pretty hard to find convincing signs of moderation as well. Thank you.

CHAIRMAN BERNANKE. Thank you. President Poole.

MR. POOLE. Thank you, Mr. Chairman. Regarding the small handful of contacts with whom I’ve talked, my trucking industry contact finds things slightly better in February and March, but things had been very, very slow before that. The company has reduced its truck fleet by 300.

My contact says that pricing is flat for the first time in six years; there is a tremendous amount of price competition. He says that he's getting four times the usual number of bids. So the customers are shopping around hard looking for price concessions. He said things were just marginally better. Both the UPS and FedEx contacts had a similar message—that activity is coming in substantially below what they had anticipated. The overnight letter business is declining—it is down about 4 percent; the next-day package business is up about 4 percent. Those are the express products. The net of those is about zero or maybe 1 percent, and they had been expecting something on the order of 3 percent. So they're revising down their expectations for this year but apparently not changing their underlying capital investment plans. However, my UPS contact, in particular, said that they are really scrambling now to reduce outlays. Essentially, their commitments for expenses are pretty well set in the short run, and so revenue shortfalls go directly to the bottom line. Therefore they are scratching around to reduce expenses. They are not replacing staff when there's attrition, and they are cutting out unnecessary travel—all the usual kinds of things. They have reduced staff, focusing particularly on management positions, which they have reduced by 1,600.

I've been reflecting on what we make out of the slower-than-expected capital spending, and let me summarize my position this way. I'm just uneasy about the outlook. If the Greenbook GDP outlook is wrong, I'm guessing we're going to come in below it. I'm mindful, of course, of the standard errors going in both directions and so forth, and we could certainly have upside surprises. I'm just saying that I'm uneasy about that. I'm also uneasy about the inflation forecast—it could be on the high side or could hang higher—and I worry particularly because it's the one that produces the most difficult policy situation for us, with output coming in below expectations and inflation hanging above target. That's the toughest. That's the classic policy dilemma situation. It causes the most pain. So that's the one I concentrate on.

It doesn't seem to me that we're likely to have a traditional recession. Money growth remains on the high side. In the past six months, M2 has been running about 7 percent, and MZM about 8 percent—that doesn't look like a recession. If you think about the expansion phase of the cycle, with the exception of housing there were no big imbalances. We didn't have the sort of dot-com and telecom over-investment that we had in the late 1990s. So what might be going on here? Well, it's clear that businesses have an intense desire to see increasing profits quarter after quarter after quarter; and when you get a revenue slowdown, they go after costs, even if it might not be perhaps long-run profit maximizing, but they feel an intense pressure. Then you get a Keynesian kind of mechanism in which some people get laid off and some things get delayed and so forth, and that produces some declines in income, and it could lead to a prolonged soft spot in the economy. That's the kind of process that I think may be under way. If that's what's happening, we're going to have to be patient and let it work out. So that's where I am right now. Thank you.

CHAIRMAN BERNANKE. Thank you. Vice Chairman Geithner.

VICE CHAIRMAN GEITHNER. Thank you, Mr. Chairman. Our view of the outlook has changed since our last meeting, but more in the balance of risks and the sources of uncertainty than in our actual forecast for growth. But just to go through the changes quickly, we've reduced our forecast for growth in '07 a bit, to something less than 3 percent, and we see more downside risks to that forecast. We've moved up the expected path of core PCE inflation just a bit in light of recent numbers, but we have maintained essentially the same view as before—that inflation will moderate to around 2 percent by the end of this year and a bit below that in '08. We see the risk to this forecast still to the upside. We face greater uncertainty about the near-term outlook than we have over the past few meetings. Looking to the medium term, although we haven't yet reduced our estimate of potential growth, we're a bit more concerned than we've been about the strength of

underlying structural productivity growth going forward. We have also changed our view of the appropriate path of policy a bit, introducing a gentle move down now in the fed funds rate beginning around the middle of the year. So this puts us a bit below the assumed path in the Greenbook, but we assume a slower, smaller reduction in the nominal fed funds rate than the market does today. Our forecast is quite close to that of the staff's in the Greenbook, and the basic story is similar. Our differences are the same as they have been for some time—we have slightly more growth and slightly lower inflation. That reflects things we talked about before, different views about information dynamics and about potential growth. Our view of the output gap and its evolution, however, is similar.

I have just a few points on some issues. On the growth front, the recent numbers suggest both a deeper adjustment in housing and a broader weakness in the economy than we anticipated, notably in capital goods orders. The effect of these developments on our forecast is not that large, however. Their significance is more in the risk to the outlook and the uncertainty, the puzzle that the investment weakness presents for the medium term. On housing and consumption, the probability of the dark scenario is still small, but it is higher than it has been and deserves some attention. The dark scenario is the risk that the reduction in credit to the household sector amplifies the decline in housing demand, which leads to a greater adjustment in prices, with a risk of a more-pronounced, prolonged decline in growth and spending. Monetary policy should not be directed at trying to put a floor on housing demand or on prices, only at limiting the risk that the weakness accumulates substantially or spreads to overall demand. Regarding capital spending, we just don't have a good explanation for why—with margins that are still pretty good, reasonable earnings growth, solid growth in aggregate demand here and globally, relatively low interest rates, and reasonable levels of business confidence—spending has continued to come in well below our



expectations. This series of disappointments, of course, has been going on for some time; it's not just about the latest numbers for durable goods orders. Perhaps this situation will prove transitory, but it justifies a bit more caution to the outlook. Of these two risks—in housing and in investment—I'd say the latter matters more and is potentially more consequential. But both of these effects are offset, in our basic view, by the expected strength in personal income growth going forward, by what are still fairly favorable overall financial conditions, and by fairly robust external demand.

Regarding productivity, productivity growth per quarter at an annualized rate has, over the past ten quarters, come in significantly below 2 percent, kind of close to the estimates of the trend rate for the period between '73 and '95. Some of the analysts who spend a lot of time thinking about this are starting to lose conviction that trend growth is still in the neighborhood of 2½ percent for the nonfarm business sector. We're still viewing the recent weakness as transitory or cyclical, but the risk that trend growth is below our estimate is, I think, increasing.

On inflation, despite the higher recent numbers, not much has really changed in our view. We still expect core PCE to move to below 2 percent over the forecast period, and we still see the risk as not getting quite that moderation. The sources of the recent negative surprises in the core data, which seem concentrated in medical services, probably don't say much about monetary policy or broader inflation dynamics, and inflation expectations remain stable at reasonable levels. So our view of the growth outlook has changed a bit, but our view of the inflation outlook hasn't changed much based on these numbers.

On the markets, as many people have said and as Bill discussed at the beginning, I don't see much that's been troubling thus far. Although correlations across asset markets have risen, overall liquidity seems fine. There's been very limited contagion from mortgages into other credit markets.

Debt issuance seems to be continuing. People are able to raise money to finance corporate restructuring investment. There is very little concern, I think, about substantial losses, on the basis of what's happened to date, in the core of the financial system and very limited evidence of stress among the various funds. But it's still early in some ways, and the fundamental outlook for growth is a bit weaker and more uncertain. Risk premiums, credit spreads, and volatility still look potentially vulnerable to a more substantial reversal. The weakness in the subprime market will take some time to work through the full range of securities issued against pools of collateral that include mortgages. The complexity in valuing structured mortgage products, the difficulty in designing hedges that actually work against exposure to that risk, and uncertainty about the shape of the adverse tail and that part of the credit spectrum are all conditions that apply to a range of other structured credit markets and credit products. In the debate about the implications of this prolonged yield-curve inversion, we have tended to side with those who have found comfort in the contrary signal you see in lower levels of risk premiums and credit spreads. Yet it's possible that the forces that may have been holding down forward rates are also holding down credit spreads and holding up the value of other assets and, therefore, may be masking weakness in the economy rather than masking strength.

On balance, although the outlook still looks fundamentally positive, we see a more complicated and less benign set of risks to the outlook, more downside risks to growth, and some continued concern that we won't get enough moderation in inflation. To us, this outlook justifies a stance of policy with a path for the fed funds rate somewhat above what is now priced into the markets. This doesn't mean, in our view, that we need to signal that nominal rates going forward are more likely to rise than to fall from current levels; it means only that we should convey the sense that our view of the most likely evolution of policy still implies a higher path than is now priced into

the markets. We can afford to be patient before adjusting policy, as Sandy said, but we need to have as much flexibility as possible going forward. This suggests that we acknowledge that the overall balance of risks has shifted a bit toward neutral, toward a flat stance of policy, but not all the way there. A delicate task for us is to do this without inducing a reaction in the market that pulls forward significantly more easing than has already occurred.

CHAIRMAN BERNANKE. Thank you. Governor Kohn.

MR. KOHN. Thank you, Mr. Chairman. Like many others, I view the data over the intermeeting period as not fundamentally undermining the basic contours of our expected forecast. We're still on track for moderate growth and gradually ebbing inflation. The economy has enough underlying strength, bolstered by financial conditions that remain quite supportive of growth, so that the housing correction should not be enough to knock the economy off the moderate growth track. Growth modestly below potential, along with the unwinding of some special factors like rent increases, should allow further declines in inflation.

Real-side data reflect the fact that the downshift from above-trend growth for several years to expansion at or a little below trend hasn't been entirely smooth, and maybe we never should have expected it to be so. Besides the overpricing and overbuilding of housing, businesses apparently built their stocks of inventories and fixed capital in anticipation of continued strong growth, and we're seeing downshifts in demand for inventories and capital to align them with the slower pace of expected growth. Businesses typically also hoard labor under these circumstances, resulting in weaker productivity growth, and we may just be seeing this adjustment getting under way, judging from the gradual upcreep in initial and continuing claims. The inherently uneven nature of the stock adjustment process and the uncertainty around it help to explain both the overall contours of the recent data and the short-run swings in the data and perceptions of them.

A number of factors, most of them mentioned by others, do support expectations of moderate growth ahead. Outside the subprime market, financial conditions remain supportive of growth. Intermediate and long-term rates are low in real as well as in nominal terms. The dollar has fallen. The fallout from the recent turbulence has been very limited. Aside from housing, a good portion of the inventory correction is behind us or is being put behind us. So over time production ought to line up better with sales. Both a rise in the national ISM index and increases in industrial commodity prices, especially in metals, support the notion of a coming recovery in manufacturing, though I admit the increase in metals prices may be a factor of the global economic expansion as well. Continued good growth of jobs to date will support increases in personal income, and as many have remarked, growth in the rest of the world has been pretty strong. I was struck by the upward revision in rest-of-world growth in the Greenbook despite weakness in the United States, the rise in oil prices, and the decline in equity values. So as Karen remarked, domestic demand abroad seems to be strengthening, and I think this bodes well for global external adjustment as well as for U.S. exports.

But the information we have received over the intermeeting period not only shifted expected growth down a little but also highlighted some downside risk to activity. In housing, those downside risks center on the implications of the subprime debacle. Will it affect housing demand? Will lending terms tighten beyond the subprime market and the mortgage market? How much will tightening spill over to other lending markets, such as home equity lines of credit, and perhaps affect consumer demand? The possible answers to these questions seem to me to have downside tails that are fatter than the upside tails. Unexpected weakness in investment spending outside housing and auto-related industries is another risk factor. The question is whether this weakness represents just a short-term adjustment to moderate growth or whether businesses themselves see a downside shift in

underlying demand that we don't see. Financial conditions may not remain as supportive of growth, besides the possibility of the dropping of other shoes, such as private equity, as many have mentioned. I see a distinct downside risk to the staff's assumption of continued increases in equity prices given the likelihood that, if the economy evolves the way the staff anticipates, long-term interest rates will rise and profits will be very disappointing to market analysts.

Despite weaker spending, we still face upside risks to the gradual downdrift in inflation. Recent data haven't been as favorable to deceleration as we would have hoped: Softer investments, slower growth of productivity, and continued strength in labor markets could suggest a slower path of trend productivity growth. If so, we would need to adjust down our expectations for growth, and labor costs would get a boost even at slower growth rates unless increases in nominal wages also downshifted pretty promptly. Good growth in labor demand could suggest a stronger path for demand and less slack than the staff is estimating. Finally, the NAIRU could well be lower than the 5 percent that the staff is estimating, especially in light of the relatively slow updrift in many measures of compensation. But, at 4½ percent, the unemployment rate is low by historical standards, and this suggests to me that the risks from resource utilization remain toward higher inflation. In sum, downside risks to our maximum employment objective have increased, but I do not think they outweigh the continuing upside risk to more-moderate inflation, at least not yet.

Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Warsh.

MR. WARSH. Thank you, Mr. Chairman. Let me say at the outset that I believe the moderate-growth scenario is the most likely for 2007. But as many of you have already discussed, I had thought that business fixed investment particularly was a very real upside opportunity and now

consider it a very real downside risk. The Greenbook marked down BFI over the next couple of quarters, but I think there's further reason to be concerned about it.

Let me confine the rest of my remarks to the market tumult of the past several weeks and give you my views on that, which are broadly consistent with what Bill said at the outset. First, my sense of what the markets seem to be telling us is that the real economy is weaker. The first-quarter earnings numbers that Bill showed us very much reflect a trend that we could be seeing more of and that suggests some downside risk in the equity markets that Governor Kohn referred to a moment ago. A markdown of data in the fourth quarter of 2006, disappointing data regarding business fixed investment, the weakness in the subprime market, and so forth suggest to me that perhaps the markets have been reacting to a U.S. domestic economy that is in somewhat weaker shape than we could have expected even a couple of months ago.

What was the cause of the market tumult of the past several weeks? When markets cannot single out a proximate cause, they have a tendency either to construct one or to be completely dismissive. In my view, some subset of rather sophisticated investors over the past six months or so have been looking for an opportunity, or maybe I should say an excuse, to pull back from certain markets in which credit-risk spreads have been unusually low; and over the past several weeks, they found one. There has been a generalized discomfort with markets priced for perfection and levels of volatility that seem uncorrelated with the real world which we're all trying to analyze. Many of us have noted in speeches during the past couple of quarters that we have been surprised by the level of certainty implied in market prices, and I think that message is now starting to find its way into the marketplace. So the tumult and volatility that we've seen in the past several weeks will, as it continues, make it more difficult for us to gauge what's going on.

Might this financial market tumult then actually affect the real economy going forward? Generally, I would have said that these financial market activities are quite distinct from the real economy. But in the case of business fixed investment, I can't help but believe that the market uncertainty, the talk of recession, the animal spirits that certainly have been negatively affected—all might affect some boards of directors and management teams that are trying to decide about whether to step on the gas on cap-ex or might get them to retreat even further. Given strong balance sheets, incredibly strong operating cash flows, and all of the momentum that they should have, I'm as puzzled as Tim Geithner as to why we haven't seen that capital investment. The tumult in the markets in recent weeks gives me more reason to be concerned there. Perhaps these management teams are going to find share buybacks to be even more compelling compared with the alternative of capital investment.

In general, I took the volatility of the markets at first blush as probably being a proper wake-up call to folks who had gotten perhaps a little too complacent about what was going on, particularly in the credit markets. Having spent a lot of time in New York in the past several weeks, I think that, if that was a wake-up call, many market participants seem to have hit the snooze button. [Laughter] Many are reviewing their portfolios and risk positions certainly, and we are seeing a bit more caution. Perhaps that's justified by real economic fundamentals or by some lemming phenomenon. That is, most of these investment banks and other asset managers have in front of them as they're making decisions a credit-risk button and a client-risk button. Over the past couple of years, they have always hit the client-risk button—that is, I don't want to take client risk; I don't want to lose this business. So they have hit that button, and the credit markets have been so accommodative and the syndicated markets so strong that they've been able to make some free money there. For a short, short window after February 27, they seem poised to hit the credit-risk

button. One senior credit-risk officer at a major institution told me that he was very popular again. People wanted him in every meeting as they were making underwriting commitments. He called me back a few days later and said, “No one wants to talk to me again.” [Laughter] So I worry whether that wake-up call has actually been felt.

Now, could this market volatility of recent weeks spread beyond the subprime market and lead to the kind of credit crunch that would have meaningful downside risks to the economy? I tried to imagine the circumstances in which that would come. First, I looked at financial intermediaries, and rather than trying to distinguish between commercial banks and investment banks, hedge funds, and other private equity, I tried to think about them as being creators of credit, distributors of credit, or holders of credit, forgetting all other labels that are associated with them. Typically, before the rather robust capital markets of the past several years, most of these institutions would decide which of those areas they would be in. Do they create products and get them off their books, or do they make big bets by deciding what to hold and not? Many of them have now decided that they could be in all three businesses. All three businesses were profitable. To the extent that a portfolio position no longer fit, they could sell it or syndicate it very quickly. In this new environment, however, with new volatility, these portfolio holdings over time may prove harder to liquidate, and the out-of-the-money options that the creators of structured products have been writing may no longer be free. A couple of weeks ago, Warren Buffett described one of these financial hedge fund phenomena. He described the groups as the “innovators, the imitators, and then the swarming masses of incompetents.” [Laughter] I won’t describe who is in what category in these markets, but many financial institutions seem to be following one particular premier investment bank that has managed to be a creator of products, to be a syndicator, and to be taking very large principal positions.



What happens if these other financial institutions get uncomfortable as these markets tighten, to the extent that they decide that they no longer want to be in the equity bridge business? To cite one example, which President Fisher raised, in a very large, highly leveraged transaction recently, a couple of the investment banks decided to put up a couple billion dollars of capital, and they were short some equity checks. Typically, they would then go to a series of other banks, bring them into the deal, and then try to syndicate that quickly. But the first investment banks that were involved wanted to make sure that there was no competition in the syndicated market. So three non-U.S. financial institutions wrote \$1 billion checks for an extremely small fee and agreed to hold that billion dollars of equity on their own balance sheets for a term of not less than 365 days and to syndicate it later only to those who would be satisfactory to the lead investment banks. To what extent over the next twelve months will they and others feel uncomfortable in this new business environment with that kind of equity exposure? If that process ends up being disorderly, there could be a rapid turn to risk aversion. Of course, I think the more likely case is that this is orderly and supportive of sustainable growth, but that's the financial situation in which I would get very nervous very quickly.

I think a second mechanism by which the situation could become worse involves a whole set of legal risks around the subprime markets and uncertainty generally over where liability rests. Through the good intentions of policymakers in the Congress and in state legislatures, some uncertainty could be introduced into the foreclosure market and into the syndication markets. Many enterprising state attorneys general seem poised to do just the same, and that kind of legal risk could be very dangerous for these credit markets.

Finally, what does that situation mean for us? I suspect that, besides our needing to keep a focus on these financial markets, it is what's happening in the real economy. As we'll discuss a bit

more tomorrow, our statement should be and will necessarily be read in the context of our reaction to incoming real data as opposed to our reaction to what's happening in the financial markets.

Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Kroszner.

MR. KROSZNER. Thank you very much. I very much agree with President Stern's characterization that, although some of the incoming data are a bit weaker than we had been seeing, we certainly shouldn't overreact. Optimally, we should react to what the data tell us about the future, and I'm not sure we've learned an enormous amount about the future over the past few months. Actually Dave has kept a very steady hand on the forecast throttle because we have seen a lot of data come in over the past six months, but they haven't led to much change in the Greenbook forecast, and I think that's quite reasonable. Given that some of the numbers have come in slightly weaker and given some of the market volatility, I think that uncertainty is a bit up; so the tails are somewhat fatter, and I agree with the number of people who had said that.

Quickly looking at GDP from the  $C + I + G$  + net exports context, I think net exports will be reasonably robust as world growth, at least over the next few quarters, is going to be fairly strong. We also heard a lot of anecdotal support for that. On both the state and federal levels, government spending is likely to continue at a pace that will certainly not reduce demand and may have the potential to add to demand. But when it comes to consumption and investment, that's where the uncertainties are. I won't restate the concerns that several of you have raised about the deepening puzzle in investment. I mentioned this at the last meeting—that for many months we've been seeing very good balance sheets, good employment numbers, good sentiment, good returns, and so on and so forth, but no pickup in investment. Given that we've now gone at least six months without seeing that pickup, I am concerned that, with the greater uncertainty that seems to be in the

markets, we may not see that pickup and that somehow our models may be missing something that should be in there but that has not been there in the past.

The other area of the greatest uncertainty is related to the subprime market. As you know now, we and the other federal regulators put out for comment—actually right at the end of the week of the increased concern about volatility in the subprime market—guidance with respect to subprime mortgages, the so-called 2/28s and 3/27s. That is still out for comment. We're very mindful of some of the comments that have been raised here about whether that could inappropriately reduce the supply of credit in this market, and in the notice of proposed rulemaking, we have really emphasized questions about what the unintended consequences are. So we want to make sure that we get information in on that. Some loans that were made may have been inappropriate, but there may have been some that were completely appropriate. We want to make sure that, when we put out the guidance, we don't choke off the appropriate loans.

The supervision and regulation staff has surveyed five active lenders in the subprime market that represent about 30 percent of that market. We've gotten data so far from three of the five. From some of them it's a bit difficult to get the data quickly because of a fair amount of management turnover, but we are still working on it. But I think it's a healthy thing that there are some delays. What's interesting is that one of the main concerns is refinancing: What will happen to these guys because this market seems to be drying up. As we discussed at the beginning, it's really the variable-rate subprime market. The subprime market is roughly 13 percent of the total mortgages outstanding. The variable-rate subprime is about 7.4 percent of total mortgages outstanding, nearly two-thirds of the subprime market. The fixed-rate part has not had any uptick in delinquencies. Because of the inversion of the yield curve, the people who may be facing increases in their variable rates may be able to refinance into fixed-rate subprimes. Over '06, the average

introductory adjustable-rate subprime mortgages were in the 7 percent to 9 percent area—depending on the loan-to-value ratio, debt-to-income ratio, and so forth—if income was stated. Right now, to refinance into fixed rate, the range is about 7½ percent to 9½ percent. It's fairly similar, so many of these people may be able to move into this area.

One thing that we want to know is what happens after people get these loans. What do they do with them next? In the survey, about 25 percent of the loans were retained by the individual banks, and so we could follow through what happened to the borrowers when they refinanced; but we see only 25 percent. Obviously this share could be heavily selective, but it still may be somewhat interesting to know that about 40 percent of those on whom we have some information actually moved into a prime product. About 34 percent went into a fixed subprime; and the rest, about 25 percent, refinanced to another type of variable subprime. So a fair number of these are able to move either into prime or into fixed subprime. Although this sample is obviously selective, it says something about the likely effects going forward. The benefits, at least in the short run, of the inverted yield curve are that many of these individuals will have a lot of opportunities to refinance into a fixed product that will have payments similar to the ones that they're paying now rather than ones that would be much higher.

That said, the situation suggests that the concerns about what will happen to the market may not be as strong as some people have said. We still don't know, as President Fisher said, a lot about the alt-A market. That market almost by definition is low documentation or no documentation. The FICO scores tend to be higher. From the survey, a lot of these people appear to be self-employed, so it becomes more difficult to independently verify the income that they have. That's a large part of the market, but obviously potentially a very risky part of the market. Fortunately, it's not an enormous part of the market, and so it doesn't seem to be a major challenge going forward.

Certainly there are some potential challenges, but I think some of the data from the survey are interesting.

With respect to inflation pressures, I think very much like Dave (now that he's a much more balanced person than he was earlier in 2006), that we see neither intensifying nor abating inflationary pressures. You know, some of the numbers more recently have not been as favorable as they could be, but they are certainly by no means out of control. Expectations continue to appear well anchored and well contained. We don't know a lot about what's driving short-term to intermediate-term inflation dynamics. It's hard to see lots of correlations with unemployment rates, economic activity, resource utilization, energy prices, and other things. I have been hoping to see and we have been seeing a gradual downtrend that seems to be flattening out to neither intensifying nor abating, which leaves us with some concerns going forward about the upside potential to inflation.

CHAIRMAN BERNANKE. Thank you. Governor Mishkin.

MR. MISHKIN. Thank you, Mr. Chairman. One way I think about the situation is to compare what's happening now, not to the last meeting, but to two meetings before. From December to January we had positive news. Now we have gone from January to March, and we've had negative news. When you look at the overall picture, we're not in a very different place from where we were in December, although I do think that there's actually more uncertainty around the forecast. So let me go into a little more detail on this. I'm much less worried about the housing market as a serious downside risk. First of all, I do see signs of stabilization of demand, and I really agree very much with what Randy just discussed. First of all, this market is a fairly small part of the overall mortgage market. Also, there are ways for people to work out their situations. So the subprime market has really been overplayed in the media, and I do not see it as that big a downside

risk. I am comfortable with the fact that we have lowered our forecast on housing a bit, but the numbers that just came in recently were actually ones that indicate some stabilization there—in terms of housing demand, in particular.

When I worry about the risk to the forecast, I'm really much more worried about capital expenditure in terms of investment. The problem here is that the fundamentals look fairly strong and yet we haven't seen strong business fixed investment. I ask myself, "Well, what's going on?" One possibility is that, in fact, there will be a bounceback—that these strong fundamentals in terms of balance sheets and so forth will produce actually stronger investment in the future, and I think that is a significant possibility. However, I'm really a bit more worried that the weak capital expenditures may indicate that something deeper is wrong in terms of the fundamentals. In particular, I'm a bit worried about the issue of what could be happening to productivity in the future. We've seen some weaker numbers in terms of productivity, and we think that is just sort of cyclical and not a change in structural productivity. But maybe the business sector is seeing something that we're not seeing, and in that context, businesses may not be investing as much because they don't see that productivity will be that strong in the future. They don't see the returns in the future, and so they're not investing as much. That's actually bad news in several dimensions. One dimension would be that it would actually indicate a serious downside risk in terms of aggregate demand. Also if productivity is lower, that's not a good thing for inflation. So the situation here is one about which I'm not super worried; but the environment is more complicated, and it makes our jobs more interesting. [Laughter] There is, of course, the Chinese curse that you should live through interesting times, but we'll have more-interesting FOMC meetings.

On the inflation front, I am comfortable with the view that the Greenbook and others have expressed that we should expect some moderate decrease in inflation. In fact, the latest data don't

really get me that nervous on this. However, we must recognize that, when we have more-anchored inflation expectations, it's actually harder to forecast the little blips in inflation because what's really going on is what's left—it is no longer the trend but just the transitory movements, and those are particularly hard to forecast. So there is a bad side to the overall better news, but I think the key is that inflation expectations seem to be very solidly grounded. It's hard to know exactly what the numbers are, but they seem to be around 2 percent. So it's realistic to think that, in fact, inflation is going to move toward the 2 percent level, although there may be some blips up and down. However, it is also important to recognize that I don't see any reason for its dropping much below that. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Thank you very much for the comments. I'm going to offer, as I always do, a brief summary and invite any comments and corrections, and then I'd like to add a few comments of my own. Most participants today agree that growth looks as though it's going to be slower, but there is some diversity of opinion about how persistent the slowdown would be. Many people have marked down growth expectations for the remainder of the year, and there was a general sense that the uncertainty about growth prospects and downside risk have increased. However, some people saw the current slowdown as only a soft patch that would be reversed soon. Housing remains weak, and some participants noted the risk that problems in mortgage and credit markets and increased foreclosure rates might contribute to further weakness. However, others felt that the housing situation has not changed materially since the last meeting. The slowdown in capital investment drew more concern, in part because it has proved difficult to explain. An inventory correction continues, but automobile inventories have been brought into line. Some factors that will support growth include a booming global economy and stronger government spending at both the federal and the state and local levels. The labor market continues to be tight,

with some noting increases in wages. Developments in the labor, housing, and credit markets will be important in determining the future course of consumption.

Several participants pointed to potential financial risks, including possible knock-on effects of the subprime mortgage problems and the possibility of the drying up of currently abundant liquidity and financial markets. Corporate earnings are also likely to slow. If these risks materialize, they could add to downside pressures on output. However, some thought that financial conditions will remain supportive. Some, but not all, think that inflation will continue to moderate, albeit very slowly. There is general disappointment with recent inflation readings, and some were skeptical that any meaningful progress against inflation is being made. In particular, resource utilization pressures, particularly tight labor markets, pose a longer-term inflation threat. Import prices and slower productivity growth also add to inflation risk. The views of most participants were that upside inflation risks still outweigh downside risks to output, that uncertainty has increased, and that the tails of the distribution have become fatter.

Are there comments? If not, let me just add a few thoughts. It's very difficult to speak last—all the good ideas have already been presented. So I'll say just a few things.

I think the growth outlook is slightly worse. The housing market is, of course, central to near-term developments. The central scenario that housing will stabilize sometime during the middle of the year remains intact, but there have been a few negative innovations. We've noted the subprime issues and the possibility of foreclosures, reduced confidence, and tightened credit terms, and I've also noted that reports from builders about the spring selling season have not been particularly upbeat, in general. At the same time, we continue to see rough stability in sales, starts, and permits. The effects of the decline in subprime lending may have already been mostly seen, since that has slowed from last fall. Mortgage rates, of course, remain quite low, and the labor



market is a key determinant of housing demand and of mortgage delinquencies, particularly cross-sectionally. Across the country, there's a very close correlation between foreclosure rates and state unemployment rates. So long as the labor market remains strong, I would think that the general health of the housing market would be improving. The housing market, I think, will follow the same scenario, but there are a few negative innovations.

There was a lot of discussion about capital investments, and I share the puzzlement about why that's happening. Like Governor Mishkin, I am concerned that it might signal something about productivity. Another possibility in the current environment goes back to my Ph.D. thesis on the effects of uncertainty on investment, which found that greater uncertainty can make people delay their commitments. In our last meeting, we discussed the possible upside risk to consumption. I think that risk is much diminished now. Our retail sales have been quite flat, and the strong growth of consumption in the first quarter is almost entirely due to the December blip, which will carry through to the quarterly arithmetic. But consumption is very likely to slow. Gas prices are another reason that consumption is likely to slow. The labor market, again, remains strong. I agree with the Greenbook that there is some likelihood of softening going forward. In particular, I think Governor Kohn mentioned that the slowing productivity growth we're seeing could be consistent with some labor hoarding in this late stage of the cycle.

Again, I've marked down my growth expectations only a bit, but if we were handicapping recessions, I'm afraid that risk has probably gone up a bit. I would cite at least three reasons. First, there seems to be a pretty good chance that potential output growth is lower than in the past; and almost by definition, if growth is lower, then the chance of negative quarters is greater. Second, the Greenbook has a 60 basis point increase in unemployment occurring stably over the next two years. If that happens, it will be the first time it has ever happened. [Laughter] Generally speaking,

increases in unemployment tend either not to occur or to be bigger than 60 basis points. Finally, we've discussed the financial market sensitivities, which are having an effect, so that changes in the outlook could have pretty substantial feedback effects onto the economy through the stock market, other financial markets, and credit markets. So I think, as President Fisher does, that the tail in that direction is unfortunately somewhat fatter.

Likewise with inflation, the news was disappointing. We knew that there would be—and we have seen—month-to-month volatility. It is difficult, as President Pinalto noted, to make a firm conclusion based on the recent data about whether or not inflation is moderating. I would just note that rents and owners' equivalent rent are still pretty important here. They have not yet slowed much, which may have to do with the nature of the uncertainties about the housing market. That possibility will be helpful going forward. At an earlier meeting I indicated that medical costs were a risk; and they have, indeed, proved to be a risk.

Speaking about inflation makes me reflect on the difficulties of measuring aggregate supply in general. As we think about the economy going forward, we face two countervailing possibilities. One, which I and several others have already mentioned, is that potential output growth may well be lower than many outsiders and maybe even the Greenbook think. Obviously that will make it difficult to get economic slack and will make this situation much more challenging. At the same time, the lack of wage acceleration at least raises the possibility that the NAIRU might be somewhat lower than 5 percent, which would be helpful in the other direction. With respect to inflation, again, as I said, I'm disappointed by the recent numbers. I don't get a sense from business people or from surveys and so on that the general public's worry about inflation has increased very much, except insofar as they perceive that inflation is constraining the Fed from acting. So, again, I don't think

we've seen an adverse breakout by any means, but obviously we're going to have to remain very vigilant and make sure that we maintain our credibility on the inflation front.

As the last item, I would like Vincent to distribute table 1. We made a couple of changes in the description of the economy. He can make a few comments, and then everyone will have an opportunity to look at it overnight, and we can discuss the communication issues tomorrow.

MR. REINHART.<sup>2</sup> I have the unenviable position of being the last speed bump between you and the open bar across the street. [Laughter] In the interest of time, I'd like to draw your attention to the latest version of table 1 and then deliver the rest of my remarks tomorrow. That way you'll get a chance to cogitate over the changes to the table overnight, and I will get to showcase an outfit that I anticipate will be just as fetching as this one tomorrow. [Laughter] The latest version of table 1, which was just distributed, introduces modified wording in the rationale portion of alternative B. In section 2, the factors supporting growth are made a little more explicit, including some of the things that you've spoken about today—favorable financial conditions and the recent mixed indicators. As for section 3, the CPI release was a touch to the high side of expectations, and the medical services component of the PPI even more so. This situation makes it likely that the core PCE price index will be disappointing and argues for substituting material similar to the bracketed material in the Bluebook. As for the risk assessment, this draft continues to characterize inflation as the Committee's "principal" concern, although some of you would prefer to identify it as your "predominant" concern, partly because of the precedential use of that word in the Chairman's monetary policy testimony. I hope for your sake that your hotel rooms have both a Gideons Bible and an unabridged dictionary. [Laughter] That concludes my prepared remarks.

CHAIRMAN BERNANKE. Thank you. I hope you'll join me now in bidding farewell to Governor Bies. We will reconvene tomorrow at 9:00 a.m.

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<sup>2</sup> The table to which Mr. Reinhart refers is appended to this transcript (appendix 2).

[Meeting recessed]

**March 21, 2007—Morning Session**

CHAIRMAN BERNANKE. Vincent.

MR. REINHART. Thank you, Mr. Chairman.

MS. MINEHAN. How nice you look today!

MR. REINHART. Thank you. That will be noted in the transcript. [Laughter]

MR. PLOSSER. I liked his red vest better.

MR. REINHART.<sup>3</sup> That won't be noted in the transcript. [Laughter] I'll be referring to the materials right in front of you. Financial markets were volatile over the intermeeting period amid a repricing of risky assets. As can be seen in the top left panel of your first exhibit, monetary policy expectations shifted down almost  $\frac{1}{2}$  percentage point, on net, at longer horizons, and uncertainty about that path, the top middle panel, spiked higher. Investors now admit the possibility of much lower policy rates just six months from now—the red bars in the top right panel—compared with the hollow dashed bars witnessed at the time of the January meeting. A part of this downward revision was due to concerns that strains in the subprime mortgage market would leave a more significant mark on spending than previously suspected. As shown by the blue line in the middle left panel, the spread on the BBB-minus-rated tranche of a CDS index covering subprime mortgages that were originated in the first half of last year ballooned in response to remarkably poor payment performance. About the same time that investors rethought the prospects for the mortgage market, they marked down the prices of equities considerably, the bottom left panel. The combination of lower equity prices and an expectation of markedly easier future monetary policy presumably signals that markets think the prospects for economic growth are now less bright.

Against this backdrop, nominal ten-year Treasury yields fell about 40 basis points, as shown by the dotted blue line in the right panel. Longer-term TIPS yields, the red dashed line, fell as much as their nominal counterparts, leaving inflation compensation little changed. The ten-year BBB corporate yield, the solid black line, followed the downward track of comparable Treasury yields until February 27, keeping the corresponding spread little changed. Since February 27, this risk spread, like others, has widened modestly. As shown in the top panel of exhibit 2, the yield on the two-year Treasury note remains well below the intended federal funds rate. The last time this spread was so decidedly negative was in 2000, the shaded area, late in the previous economic expansion. As shown in the middle left panel, the Committee began 2000 with three successive policy tightenings, which brought the federal funds rate to  $6\frac{1}{2}$  percent. At those meetings, market participants had expected some firming—that is shown by the dotted lines plotting the path of the expected federal funds rate for each meeting. By summer, however, investors had taken out

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<sup>3</sup> Material used by Mr. Reinhart is appended to this transcript (appendix 3).

the anticipation of firming; subsequently, they priced in policy ease. This occurred as forecasts for real activity softened, as shown at the middle right by the Blue Chip Consensus forecasts for real GDP growth over 2001, the solid line, and for the annual average 2001 unemployment rate, the dotted line. As noted in the bottom left panel, in the first seven meetings of the year, the Committee held that the balance of risks was tilted toward heightened inflation pressures—in part, it seems from rereading the transcripts, because no one wanted to be seen as lacking vigilance against inflation. Three lessons from this experience are noted at the bottom right. First, statement language can hamper your flexibility. Second, downward moves in financial market yields can be informative. Third, those forward-looking adjustments in financial markets can help to offset the effects of gradualism in policymaking.

In writing the Bluebook, we tried to offer a greater measure of flexibility for policy going forward in alternatives A and B. You might want that flexibility if you harbor serious concerns about the housing market, the subject of the top panels of exhibit 3. In particular, some members might be of the view that the turmoil in the subprime market may prompt a significant pullback in funding for housing, steepening the slide in home sales, the left panel. At the same time, homebuying attitudes (the middle panel) have improved, no doubt in part because the drop in market yields has pulled down mortgage rates for prime borrowers (the right panel). Given these cross-currents, you might be inclined to await more information and be prepared to move in either direction when the time comes. Waiting a bit might not seem so costly, in that the real federal funds rate, the solid line in the middle panel, is right on top of the equilibrium real federal funds rate consistent with the Greenbook forecast. By that measure, at least, maintaining the current real federal funds rate at 3 percent would imply closing the output gap in the next couple of years. Keeping the fed funds rate steady for a time is the prescription from the standard optimal control exercise with the FRB/US model with a 2 percent inflation goal (the solid lines in the bottom panels). As explained in a recent memo and a Bluebook box, the inertia of inflation in the FRB/US model is due importantly to the sluggishness of inflation expectations. If you believe that the public could be made to understand an inflation goal of 1½ percent relatively quickly and costlessly, perhaps as in the “immediate recognition” scenario plotted as the dashed lines, you might not feel the need to hurry to move the fed funds rate even if your inflation target was 1½ percent.

This was the first Bluebook in some time that fully lived up to its official title, “Monetary Policy Alternatives.” That is, we provided three alternatives for the level of the intended federal funds rate. The policy easing of alternative A and the firming of alternative C, however, may have an air of unreality to them because market participants seem so firmly convinced that you will stand pat today, and I will expand on that issue with the aid of exhibit 4. The top panel plots the estimated effects of FOMC policy announcements on near-term policy expectations over the past six years. To be sure, a 25 basis point cut or hike would translate into a 25 basis point surprise, something that has not been seen since 2001. By the way, the coloring of the bars exposes regularity in your behavior. Policy easings, the red bars, tend to be surprises, whereas firmings, the blue ones, tend to be more predictable. That is,

you've shown a revealed preference to be more willing to surprise markets on the downside than on the upside. But before you obsess too much on the perils of surprising markets in general, I would note that when the Bank of England tightened 25 basis points on January 11, fifty-one out of the fifty-one economists surveyed by Bloomberg just before the meeting had expected no change. As shown in the middle left panel, rates did rise that day but by a muted amount at longer maturities. As shown at the middle right, the imprint on ten-year gilt yields was not long lasting, nor was implied volatility deflected from its downward track. As to the direction of the potential policy surprise, the case for alternative A, as laid out in the bottom panels, probably rests on the belief that the ongoing weakness in the housing sector will intensify and be joined by softness in some other sector. One candidate is business spending given that, as at the left, purchasing managers see business conditions as treading water and, as at the right, view their customers' inventories as too high.

The policy ease in alternative A, and perhaps even the holding pattern of alternative B, might come at the cost of an increase in expected inflation, a concern that would be at the forefront for anyone inclined to the 25 basis point firming of alternative C, the subject of exhibit 5. As shown in the top panel, inflation expectations as surveyed from households (the solid line) or professional forecasters (the dotted line) remain above what many of you have identified as your comfort zone for inflation. The apparent poor alignment of these expectations with some of your statements may incline you to a "demonstration effect" of your resolve. You may view this as necessary merely to hold the line on inflation. The unemployment rate, plotted in the middle left panel, remains 4½ percent, consistent with a traditional view of pressures on resources. You might also be taking a cue from our trading partners. Last quarter, the arithmetic contribution of the improvement in real net exports to GDP growth was 1½ percentage points, and as shown in the table at the middle right, the staff forecasts foreign economic growth to continue to expand robustly. The fact that the recent angst about the U.S. expansion is not widely shared internationally may lend some comfort that economic growth at home still has a firm footing. You might also view this meeting as an opportunity to set market participants straight about your priorities. Policy firming would disabuse people of the notion that the FOMC responds mechanically to a decline in stock prices. Indeed, the still-low level of implied volatilities, as in the bottom left panel, may suggest that investors maintain the faith that monetary policy will smooth every road. The bottom right panel plots five-minute changes in the S&P 500 (along the horizontal axis) against five-minute changes in the one-year-ahead Eurodollar futures rate (along the vertical axis) since February 27. In the past few weeks, interest rate expectations have been very responsive to equity prices—possibly suggesting a widespread belief that the FOMC supports equity prices.

CHAIRMAN BERNANKE. Thank you. Are there questions for Vincent? Governor Kohn.

MR. KOHN. Vincent, on exhibit 2, the two-year Treasury spread over the target federal funds rate, for a while we have been discounting the tendency of the ten-year rate to be below the fed funds rate because term premiums have been unusually low, so we've said it's not as indicative of expected weakness. Are term premiums low for the two-year rate, or do we know?

MR. REINHART. To start where we are now, to get to about 25 basis points or zero at the ten-year mark, you probably should smooth across the maturity structure. Yes, indeed, the two-year term premiums are lower, so some of the low level of the spread does reflect less compensation for risk. At the same time, we haven't done much to change our estimates of term premiums at very short maturities, and the implied sets of futures rates do point downward and give you 75 basis points of easing in the next year.

CHAIRMAN BERNANKE. President Poole.

MR. POOLE. I had essentially the same question. If you take the two-year rate over the past year, how much of that could be explained by a change in the term premium? You said term premiums are low, but I'm talking about the change.

MR. REINHART. You have to go back about two years. The term premium started declining about two years ago.

MR. POOLE. But quantitatively, how big is that?

MR. REINHART. Quantitatively, a good portion is due to lower term premiums.

MR. POOLE. Okay. But then, does that have much bearing on, let's say, Eurodollar futures a year or a year and a half out?

MR. REINHART. Well, you'd assume that there are arbitrage opportunities across the collection of fixed-income securities, and lower term premiums in the Treasury market are not a peculiar attribute just for the Treasury market. They say something about investors' attitudes



toward risk and perception of risk, and that should be reflected in all fixed-income securities. So yes, we think those term premiums are lower everywhere.

MR. POOLE. But if we take the change in the Eurodollar market just since the last FOMC meeting, or take your exhibit 1, the top right-hand panel or the top left-hand panel, my instinct is that it has to reflect almost entirely changes in market views about the future fed funds rate.

MR. REINHART. I think your instinct would be guided by the top middle panel, which shows that implied volatility went up, which would not be consistent with term premiums going down. We would first see, at the very short end, that the sensitivity of the term premiums to volatilities is lower than it is with longer capital instruments and then would interpret the shift in the upper left panel as reflecting expectations about policy.

MR. POOLE. Thank you.

CHAIRMAN BERNANKE. Are there other questions? If not, we're ready for our policy go-round. President Poole.

MR. POOLE. First of all, I like alternative B. I'll start with that. I think we have a couple of issues that are pulling in different directions. Vince talked about this a bit. A lot of people in the market seem to believe that de facto our inflation objective is more like 1½ to 2½ percent. They don't really believe 1 to 2. That may mean a lot of resistance in the marketplace to revisions of expectations, which tends to feed through the whole economy and to keep current inflation higher than would otherwise be the case. Clearly, we don't want to do anything that would reinforce the market's view that we're willing to keep the current inflation rate or that our upper end is 2½ percent. I think that there's a lot to be said for stating that our inflation objective is 1½ percent, plus or minus ½. However, the whole rationale of trying to

have very firmly entrenched inflation expectations in the market is to maximize employment and growth over the long run and to reduce the cyclical effects on employment. Inflation is an inertial process, and we would like to avoid a situation in which we hang on longer than is really necessary so that employment is driven down if the economy generates some cumulative weakness. That's a major part of the policy problem.

So I asked myself this question. The market anticipates, let's say by the end of 2008, a fed funds rate that is 75 basis points below the staff assumption in the Greenbook—I think 75 is the right number. Wouldn't it be desirable for us to try to change the market's expectation on the fed funds rate to match our own Greenbook expectation? My answer is clearly "no." There is a lot to be said for allowing market fluctuations in rates to help stabilize the economy, and I think that Vince was getting at this point in talking about the experience in the last downturn—that the market can help stabilize the real economy by moving rates. We can avoid sending wrong signals about our longer-run inflation objectives by delaying any policy response and letting the market do a lot of the stabilization work for us in terms of the real economy. Obviously, if the economy eventually weakens, we have to follow through. The statement language goes very much in that direction, perhaps as much as we can possibly craft. So I really like the policy—no change in the rate—and the language that are in alternative B. Thank you.

CHAIRMAN BERNANKE. Thank you. President Hoenig.

MR. HOENIG. Thank you, Mr. Chairman. I am inclined toward leaving the rate unchanged, so that would be alternative B. I'd like to comment on a couple of things. Although the downside risk to growth appears to have increased somewhat on a national level since the last meeting, I continue to expect that we will see a pickup in the economy, as I said yesterday, over the year. At the same time, I am obviously disappointed, as others are, that the recent inflation

numbers have not continued to show the progress we saw last fall. Consequently, I think that the risk of inflation will remain above acceptable levels for a while, and that situation on balance outweighs the downside risk to growth. So while I favor no change in policy, I also continue to favor statement language that reflects an explicit bias toward firming or that makes it very clear to the market that we will remain firm until we actually see the inflation numbers consistently improve.

That leads me to the issue of the statement. I'm open to the language there, but I like the wording that "the Committee's principal policy" or "predominant," whichever you prefer, "concern remains the risk that inflation will fail to moderate as expected." I'm a little uneasy about the part that says that "future policy adjustments" will be dependent on events. I think it should say something along the lines of "the extent and timing of any additional firming" so that we don't confirm the market's view that we will see a drop of as much as 75 basis points in the fed funds rate in the future. Our most likely events are to hold firm as we go forward, and I'd like to convey that to the market one way or another. I'm open as to whether or not we do that by saying that the bias is still on the upside. I'm more concerned that, by saying that we're going to look for data in the future as defining which way we go, we will confirm the lower rates in the markets, and that will complicate our job rather than simplify it. Thank you.

CHAIRMAN BERNANKE. Governor Kohn.

MR. KOHN. Thank you, Mr. Chairman. I also favor keeping the federal funds rate at the current level. As many people remarked yesterday, that probably stands the best chance, for now anyhow, of keeping growth at a reasonably good rate and reducing inflation at least a little further, albeit gradually—the best chance, that is, of coming closest to our dual objectives. We are presented with some challenges here on communications. The incoming data certainly have

resulted in a downward adjustment to expected growth, and I have highlighted some downside risk on the activity side. But output is still running close to potential; in level terms, it might even be beyond potential; so it's not a big problem. I think we all see the risk that inflation won't moderate as still being substantial and probably greater than the risk of a shortfall in output. So our challenge is to recognize that the real economy has shifted somewhat, but not a lot, while avoiding giving the impression that we're reacting in any way to the financial market developments; maintaining our primary emphasis on inflation risks; and, I hope, not inducing a further decline in expected federal funds rates. I agree with President Poole that the market constructively is building in its own expectations, but we shouldn't push them ourselves. I'm not sure it's possible to meet all these goals. [Laughter]

Alternative B comes as close as I think I could come in acknowledging the mixed data but emphasizing that we expect moderate growth ahead, emphasizing that the recent readings on inflation have been too high—particularly the shift from last time, which suggested that we had been a little disappointed in the inflation and the inflation risks—and pointing out that the Committee's principal policy concern remains that inflation will fail to moderate as expected. As for "principal" versus "predominant," I'm sort of indifferent. I guess I'd lean slightly in the direction of "predominant" for the reason that Vincent gave—you used "predominant" in your testimony, Mr. Chairman. But it's not a big deal.

I think my preference here, partly reasoning from the fall of 2000, would be to give as honest a representation of our views as possible and to downgrade our worry about how the financial markets are going to react. I myself am a little haunted by November 2000, when things were slipping away and the Committee was afraid to shift its views because we were afraid of the effect on financial markets. There was a lot of discussion at that meeting, and I

think in retrospect that we look a little silly. So I think I would go with alternative B as stated here. If the markets rally a little, so be it. From my perspective, this is as good an outline of where I think the Committee is as I could put together. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. As has already been suggested, I, too, favor maintaining the fed funds rate today at 5¼ percent. As I said in the first go-round, the data we have received since the last meeting have certainly increased my uncertainty about the forecast. But I think that the fundamentals haven't changed that much. Besides, as we discussed yesterday, the earlier signs of moderating inflation seem to have ebbed somewhat, and inflation still seems to be higher than I'd like to see. So I am still concerned about the upside risk to inflation. Although my uncertainty about real growth has grown somewhat, it does not overcome my concern about inflation at this point. Thus, until I see more-convincing evidence that the economic weakness we see cropping up here and there will be deeper and longer lived, I would favor maintaining the current fed funds rate. The combination of temporarily slower growth with a constant fed funds rate, in my view, does represent a modest firming of policy, which I think will have desirable effects both on inflation and on our credibility. Cutting rates at this time, it seems to me, is inappropriate as it's unlikely to have a significant effect on the weakness in real output or investment in the short run in that the absolute levels of long-term real rates remain relatively low. Moreover, a cut in the rates is likely to signal to the markets that we are much less concerned about inflation than we previously indicated and that we are willing to forgo our inflation objective in search of modest increases in real growth. I simply don't believe that we can fine-tune with such precision, and we shouldn't encourage the markets to believe that we can do so. Such a move might also have undesirable consequences for our reputation and

credibility. It also might put us on a downward path that we may find hard to resist and thus put our inflation objectives at risk. In other words, before we take a step to cut rates, we need to have a much clearer picture of where we're going, and I think we don't have that yet. However, if the data evolve so as to suggest that the slowdown is going to worsen, the FOMC clearly would need to allow the fed funds rate to fall with equilibrium real rates but only to a level and at a pace that are consistent with making progress on our goal of price stability. Nevertheless, now is not the time for that.

Turning to language, regarding the new alternative B that you gave us yesterday, I'm actually pretty happy with most of that language. I think section 2 does a very good job, and I'm fairly comfortable with the language in section 3. As I've said before, although I am skeptical about inflation pressures moderating on their own, I cannot bring myself to endorse the language of potential, of capacity utilization. My reading of empirical evidence is that it casts serious doubt on the usefulness of such measures to forecast inflation. I don't like the idea of perpetuating in the marketplace a belief that it might be useful because in the long run it can damage our own credibility. But you've heard me say that before, and I won't belabor that point any further. The final section on the balance of risks is the most significant part of this statement, and I have a couple of points to make there. Frankly, I'm pretty happy with the way the new version reads. I think it represents a slight recognition that the economy has weakened, without being very explicit about it; it's more of an implicit acknowledgement. So I could live with the language as it is proposed.

President Hoenig suggested that he would like "firming." I guess I'm a little torn. I'm sympathetic with that point of view; but as I suggested, if in fact the real rate is falling, by our holding the rate constant we are actually making a slight firming of policy. I'm not sure the

markets fully understand that subtlety—of either that language or that view of policy—but I think it might be helpful to communicate it at some point, which is back to the communication issue. So, frankly, I'm pretty happy with leaving the fed funds rate as it is, and I could live with the language in alternative B as it is.

CHAIRMAN BERNANKE. Thank you. President Pianalto.

MS. PIANALTO. Thank you, Mr. Chairman. I also favor leaving our policy rate unchanged today, and I support the language in alternative B, although I find myself sympathetic to the assessment of risk language in alternative A. The incoming information we have received since our last meeting has led me to believe that the economy may not be as firmly footed as I thought at our last meeting. However, my sentiment about the underlying strength in the economy has taken more than a few turns in the past year, and I think the assessment of risk language in alternative A may convey greater certainty over these real-side risks than I think we currently know. So I think that removing the "additional firming" phrase that we've been using for some time more accurately reflects how the softer tone in the incoming data has influenced my assessment of risks. It's still my view that the predominant risk that we face comes from the possibility that we're not making the kind of progress we want to make against the inflation trend that I believe our policies are trying to engineer. So I'm comfortable with no change in the fed funds rate today and the language in alternative B. I am indifferent about the issue of whether we use "principal" or "predominant." I think that, perhaps because you've used the word "predominant" in your testimony, using it here helps us, but I can go either way. Thank you.

CHAIRMAN BERNANKE. Thank you. President Minehan.

MS. MINEHAN. Thank you very much, Mr. Chairman. I, too, am very much in favor of staying put with our current stance of policy. As I said yesterday, my own sense, as I listened to

the commentary around the table, is not terribly different from that of everybody else—a sense that risks have risen on both sides of the forecast. But I’m still willing to believe that we are really more in an ebb-and-flow process here, as we were last fall, and that the underlying strength of the economy is such that the chances going forward are that we’re on fairly solid footing. In that regard, I would like to stay where we are. I would like to have a little more pressure on inflation to prevent it from moving up in the future and to keep it on the downward trajectory that’s in the Greenbook forecast. So for all those reasons, I’m comfortable with alternative B, with staying put. Although I think that Vince is right on the mark—that it’s a good thing we now have a set of alternatives—I think that having that set is reflective of the underlying risks in the economy. We are doing ourselves a favor by looking seriously at whether or not we should move down, stay put, or go up at this time because there are arguments in all three directions, depending on where you come out on the risks to the economy. So I was glad to see that evolution of the Bluebook.

In terms of language for alternative B, in general I’m pretty happy with it. If it were just up to me, I would go with a shorter form of section 2. I would not put in the list of things that are supporting the moderate pace of expansion over the coming quarters. I would just leave that alone, and let the two sentences stand on their own—that recent indicators have been mixed, the adjustment to the housing sector is ongoing, but the economy seems likely to continue expanding at a moderate pace. I just think that not modifying it by all the things that we expect to continue to be strong allows us a bit more flexibility going forward. It doesn’t give the market a lot of things to watch, in particular. To some degree, mentioning financial conditions as still favorable heightens the market’s attention to our attention to financial conditions, if that makes any sense to anybody. It just elevates that consideration to something with which I’m really not all that



comfortable. I think we're better off with a simple statement that the economy still seems on track from the perspective of growth. The inflation statement in section 3 is right on. I like the way it's stated. I could go with either "principal" or "predominant"—"principal" seems a little softer than "predominant," but that's just a matter of taste. I do take the point that the second sentence in the assessment of risk—that future policy adjustments depend on the evolution rather than the assumption of the next one being a tightening—is a big change, and I think the markets are going to see it as a big change. It is appropriately reflective of what I heard around the table yesterday and what we ought to be thinking about at this time. So I'm very much in favor of that way of talking in this announcement. But I think we ought to recognize that the markets are going to see it as a big change. So with a little modification, I'm on board with alternative B.

CHAIRMAN BERNANKE. Thank you. President Stern.

MR. STERN. Thank you, Mr. Chairman. Well, I'm largely in agreement with all I've heard around the table so far this morning. As others have commented, I think yesterday's discussion and the incoming data on the economy suggest that uncertainty about the outlook, in terms of both growth and inflation, has increased at least a bit, but I don't think they provide a significant reason to change policy and adjust the federal funds rate at this point. So I continue to favor alternative B and most of the language associated with it. I'm perfectly happy with sections 2 and 4 as drafted. With regard to section 3, although I can certainly go with it as it is, I would suggest replacing the second sentence in section 3, alternative B, with the second sentence from alternative C, and let it go at that. I would do that to highlight the uncertainty that surrounds the judgment that inflation is going to moderate or decelerate a bit from here. So I think that highlighting that has some value and it is consistent with our concerns—that a lot of

uncertainty is associated with this—and it would be valuable to get that thought in there. That’s my one suggestion. Thank you.

CHAIRMAN BERNANKE. President Yellen.

MS. YELLEN. Thank you, Mr. Chairman. I support the Bluebook alternative B, both leaving the federal funds rate unchanged and also the language basically as it stands. I think the current stance of policy is likely to foster an economy that gradually moves toward a soft landing of the type portrayed in the Greenbook forecast, but obviously I have become much more focused on the downside risk to economic activity since we met in January. On the inflation front, the news hasn’t much altered my view. I still think core inflation is likely to edge down this year and next, but I certainly think it’s too soon to conclude that any new lower trend has set in. And I do definitely see upside risks, given that labor markets are still somewhat tight, oil prices have risen, and the dollar has fallen. So for me, the risks do seem more balanced in the sense that there are downside risks to real activity and upside risks to inflation; and I think it is appropriate—I agree with Cathy’s comments—to reflect that in the statement. For a minute I contemplated supporting the language about the risk assessment in alternative A; but really, upon further reflection, I like alternative B very much. The shift to “future policy adjustments” from “firming” appropriately hints at downside risk, as we all recognized in our discussion yesterday. I agree with Vince that it creates greater policy flexibility for us and lets the market work in this stabilizing manner. Even so, it does retain an asymmetric bias, which I think markets expect; and I consider it reasonable because, on the whole, I do remain somewhat more concerned about inflation risk, and it is wise for our message on that to be consistent over time.

CHAIRMAN BERNANKE. Thank you. President Moskow.

MR. MOSKOW. Thank you, Mr. Chairman. As I mentioned yesterday, my overall assessment of the economy calls for growth to average somewhat below potential in '07 and to improve in '08, and I expect labor markets will remain tight with the unemployment rate staying below 5 percent. Core inflation is higher than I like. I see some forces that will help moderate inflation toward 2 percent, but I'm concerned that these will not be strong enough to push inflation below 2 percent within a reasonable time frame. So while I recognize the downside risk to growth, I still think the inflation situation poses the greater risk; and at this point, the costs of a policy mistake on inflation are greater than those of a mistake on growth. The weak growth environment does suggest that the short-term equilibrium real interest rate may be lower now; if so, then maintaining the fed funds rate at 5¼ percent may provide a bit more policy restraint and with it somewhat more impetus for reducing inflation. However, the analysis in the Bluebook suggests that this effect will be minor beyond the near term. So with the increased uncertainty over the growth outlook since our last meeting, it seems reasonable to continue to hold policy steady while we gather more information. So I do favor alternative B.

Let me make some comments on the language. I agree with Cathy Minehan's comment on section 2—of stopping the statement after the phrase “moderate pace over coming quarters.” Just put a period there. I agree with everything she said as reasons for taking out the additional language, and I would just add that, as now written, it mentions housing again. So housing is mentioned twice in that section, and I think it's unnecessary to add those additional phrases at the end. The statement comes out much more succinct and focused if we stop it after the phrase “coming quarters.” On the question about “predominant” versus “principal,” I prefer sticking with “predominant” since it was used before in your testimony. It would be my guess that the definition is probably the same. I don't think that's what should determine the use. I just think

it's better if we're consistent here, so I would have a preference for using the same language that was used in the testimony.

On the "additional firming" question that Tom Hoenig raised, I have some sympathy with him on this. As the Bluebook said, it's difficult to know how the markets will react to this change. It's always tentative how the markets are going to react, but the Bluebook said that now the judgment is more tentative than usual as to how they'll react to this change in the statement. I think it will reinforce the market's anticipation of future policy ease and probably increase expectations of ease. But having said that, I think the new version does more accurately reflect our views and the views around this table. So it's a close call, but on balance I think we ought to make the change, and I would support the language in section 4 as written.

CHAIRMAN BERNANKE. Thank you. President Poole.

MR. POOLE. I think the likely effect of taking the firming language out this afternoon will be as Mike Moskow suggests. But the more important point is how it conditions the market over the period to the next meeting. There I think it's going to be driven by the flow of incoming data, and I think that's the more important point.

MR. MOSKOW. Well, we'll see. [Laughter]

MR. MISHKIN. Good answer. I think it's tentative—the judgment is tentative.

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. That's totally immaterial to whether this is going to affect what the rate is at the next meeting. I mean, lots of changes to rates could occur between now and the next meeting, or the effect of this statement on rates after this meeting could persist until the next meeting. So I don't see how it's relevant, Bill.

CHAIRMAN BERNANKE. President Lockhart.

MR. LOCKHART. Well, like so many others, I agree with keeping the funds rate at the current level and the language in alternative B. We're experiencing real growth at about the rate we expected, but inflation is no longer declining. Having said that, I'm comfortable with the current policy and don't see a need to move until we become convinced that our forecast for inflation moderation won't be realized. In regard to the language, I'm not yet a master of the nuances, [laughter] and so I don't have strong opinions on "predominant" versus "principal." Because "predominant" is consistent with the past, it does strike me as being slightly stronger. Therefore, I'll go with the consensus, but I would favor that.

CHAIRMAN BERNANKE. Thank you. President Fisher.

MR. FISHER. Well, Mr. Chairman, yesterday I indicated concern for the downside, even though I come from a District that is running a pretty warm economy. My soundings with business leaders and my interpretation of what I heard around the table yesterday lead me to conclude that we are perhaps one revision or one shock, including possibly a financial market shock or a credit crunch shock, away from a recession. I'm in favor of alternative B. I'm still concerned about inflationary pressures. I'm impressed by Tom Hoenig's arguments on how powerful ethanol and other forces are in our society, but I think that's adequately reflected in the last section. That is, if things changed and we had stronger economic data and, in my case, stronger verisimilitude, if not similitude, from the private sector, then it leaves the space to tighten because the last section is a balanced statement.

I want to comment on what President Moskow and President Minehan pointed out about the second section. That's the key point I'd like to dwell on—I think it's wise to make a full stop after the word "quarters." "Still favorable" implies doubt, and I don't think that's a wise thing for us to imply. Second, we do repeat ourselves on housing. Third, we can't say with certainty

that there is a gradual waning of the correction in the housing market; we don't know. So, again, I would strongly recommend that you have a full stop after the word "quarters." Finally, I will play my role of a broken record to suggest once again that we insert the word "global" before "resource utilization" so that we don't continue to further the belief that we are oriented toward a closed economy. Those would be my recommendations, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. I'm okay leaving the fed funds rate unchanged today. I say that despite the fact that inflation readings have been less favorable lately. Core inflation is clearly higher than we want. I see little reason to expect moderation anytime soon without action on our part. If the truth about the forecast is that, as the Greenbook says, we expect moderation at the rate of 1 basis point a month or less, it would take a statistician quite a while to discern statistically between that and no moderation at all. Concerns about growth continue to keep us on the sidelines, and recent jitters about subprime mortgages and business investments have added to ongoing concern since the last meeting. These concerns have given me the jitters as well both because I would prefer stronger growth to less and because at times in the past such concerns have deterred needed action on inflation. So to repeat, I'm okay leaving the fed funds rate unchanged. As I said, I do believe we will need to tighten this year to reduce inflation, but this doesn't seem like a propitious time to do so.

With regard to the statement, I very much agree with President Hoenig. I'm not sure I understand what the language in section 4 is supposed to convey. On the one hand, it seems to retain and even strengthen our anti-inflation tilt by labeling inflation our principal policy concern. On the other hand, the move to symmetric language in the second sentence would seem to remove a tightening bias. Thus these sentences seem to work in opposite directions. So more broadly, I agree

with President Hoenig. We should not be loosening the sense of our tightening bias in this statement. I also agree with President Plosser. I'll just register agreement with his concern about the capacity utilization language. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Warsh.

MR. WARSH. Thank you, Mr. Chairman. I also generally share the views of alternative B and favor maintaining the federal funds rate today. I thought what I'd do is just highlight a couple of things. First, I think the statement needs to be reflective of the real economy rather than financial markets, as we discussed yesterday. So let me spend a moment on the reference to "still-favorable financial conditions" in alternative B. I think the financial conditions are still favorable, and so that's an honest depiction of events, as is the rest of the statement after the reference to coming quarters. I think the question really is, If we enter the debate over describing the financial conditions, how do we get out of it? So when we meet next, I'm wondering how we'll then describe the financial conditions. Or if we stop any reference thereto, what is that saying? That is, I think these markets are adjusting in a very orderly way. I don't feel now, as I feared a few weeks ago, that we would have to say and do things to ensure that adjustment occurs. If we don't refer to these financial conditions and we continue to suggest that we think the economy will expand at a moderate pace over the coming quarters, that in itself shows that we have some degree of comfort that the financial market tumult hasn't really changed our central tendency. So though I'm comfortable with the honest depiction of all of alternative B, I worry a bit about what our exit strategy is. I can't come up with a better way in which to refer to financial conditions without inviting that discussion, and so I'm left with puzzlement about an exit strategy on that question. The most important thing that we're accomplishing in alternative B is suggesting that we aren't going to come to the rescue of market tumult, that market discipline is working, that we don't want

complacency in the markets, and that our job is not to make sure that people make money in those markets. Our job, as many of you have said, is to keep the economy on an even keel. So with that, I favor alternative B, but I will remain a little uncomfortable until someone can tell how we answer the question about what we do next regarding the reference to still-favorable financial conditions.

CHAIRMAN BERNANKE. Thank you. Governor Kroszner.

MR. KROSZNER. Thank you very much. I, too, favor alternative B—keeping the federal funds rate constant at this point. From the discussion yesterday, I gather that many of us still see in some cases a substantial risk that inflation just won't come down from where it is. Also, from the discussion yesterday, I think that there is a bit more uncertainty—some fatter tails—and so modifications to the statement that reflect that uncertainty are useful.

Let me work from the bottom up and go from the risk assessment in section 4. I like the risk assessment. The removal of the explicit reference to firming will certainly be interpreted by the markets as opening the possibility of a cut down the line, which we hadn't explicitly opened up before. We do offset that a bit—I think Jeff Lacker was getting at this, although I think it is actually somewhat positive rather than negative—by characterizing the Committee's inflation concern as “principal.” A slight softening from “predominant” makes sense to me because data have come in since the Chairman enunciated that “P” word, the “predominant” word. [Laughter] “Principal” is appropriately reflective of the new information and the way people have talked about it and gives us a bit more flexibility down the line because the tails are somewhat fatter, which reflects the discussion. Also, I take Vince's presentation about 2000-01 to heart, and so getting a little more flexibility there may not be a bad idea at this time.

On section 3, it's important to acknowledge that the readings have been a little above what most people are comfortable with, and so I think it makes sense to go with that language. In section



2, some things I like very much, and some things I don't like. The phrases that the recent indicators have been more mixed and that the adjustment in the housing sector is ongoing are good ways to characterize the discussion we had yesterday and accurate reflections of what's going on in the economy. I like the phrase "the adjustment in the housing sector is ongoing," and I certainly agree that the economy "seems likely to continue to expand at a moderate pace over coming quarters."

Although in principle I would favor having a shorter section 2, just cutting it off there, we might want to have at least a little something else. So I would say "supported by, among other things, gains in income," and leave the wording there. I'm actually quite strongly opposed to including "still-favorable financial conditions" for some of the reasons that have been enunciated. That phrase will look like our very weak attempt to say that we really, really do believe that the markets are okay—that is, a weak attempt to talk up the markets. When we use that phrase, we're thinking about just the low bid-ask spreads and the capital that's flowing into the markets. There's a very real chance that the phrase will be misinterpreted as focusing on the equity markets, which I don't think any of us intends it to mean. Also, Governor Warsh's concern is an important one. How do we get out of talking about the market? What if the market goes down? I don't think it's good for us to be using language that we can't explain our way out of. In a speech or in testimony we could explain what we mean by "still-favorable financial market conditions." But with the kind of crimped "kabuki" language that we have in our statement, I think it would be much better to omit the reference. Given that we have a very good phrase about the ongoing adjustment in the housing sector in the first sentence, I'm not sure what we accomplish by taking away from it or giving more color to what is a waning correction. Being neutral because of uncertainty about that market—that its adjustment is just ongoing—is most appropriate. So I would favor either cutting things off after

“coming quarters” or putting in something like “supported by, among other things, gains in income.” Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Vice Chairman.

VICE CHAIRMAN GEITHNER. Do we have any precedent, Vince, for reference to financial conditions described as favorable or otherwise? We’ve said that it’s supported by accommodative policy.

MR. REINHART. I was going to say that mostly the references would be to the stance of policy, as opposed to financial conditions.

MR. KOHN. I think there was back in 2001, after we cut rates, but I’m not sure. Overall my concern about cutting things off after “quarters” or “gains in income” is that such a statement would be kind of weak. We say that indicators have been mixed and adjustment in the housing sector is ongoing, but there’s an act of faith here. Somehow not giving some rationale for the moderate growth in income ahead weakens the statement. The income phrase always struck me as endogenous: “We think that growth is going to be moderate and that income will go up with growth.” But I can see the worries about the mention of financial conditions. Most people around the table mentioned that concern.

CHAIRMAN BERNANKE. President Minehan.

MS. MINEHAN. You could do something like “still, taken all together, the economy seems likely to expand at a moderate pace.” I think that Governor Kroszner was right on. In terms of the shortness of this language, highlighting these three things really does run the risk that they will appear to be things on which we are going to focus a lot of attention. We don’t want to convey, particularly in the message on financial conditions, that that’s where we’re going to put our attention.

CHAIRMAN BERNANKE. Let me just ask a question. The intention of this was not to comment on recent market volatility. The intention was to say that interest rates are low, stock prices are pretty strong, and liquidity is good, and that is going to support growth. Would changing it to, say, “aided by supportive financial conditions” or something like that, be of any help?

MS. MINEHAN. I fully agree with Governor Kroszner’s idea that thinking that in this short form we can explain all of that is risky. Given the volatility that we have recently seen and the concern, which many have expressed, that this Committee is out to save people from stock market problems, I just think that we run a risk by highlighting “financial conditions” in our statement right now.

MR. FISHER. Mr. Chairman.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. I feel very strongly about this issue. I’d like to underscore the arguments that have been made—I think we have unanimity around this table. Our job is to get the real economy right. We’re opening a door here that entails significant risk. Governor Warsh made a very good comment: What is our exit strategy once we open that door? So the question is whether opening that door is necessary. I don’t believe it’s necessary at this juncture.

CHAIRMAN BERNANKE. President Poole.

MR. POOLE. The way I would look at the issue is to suppose that we have another break in the stock market of 5 percent or 8 percent, something like that. If we put “financial conditions” now, we clearly couldn’t put it in the next time if we had that condition. Then what would it mean for us to take it out? That’s why, among the other things that people have said, I would prefer not to have it in.

CHAIRMAN BERNANKE. Okay. I get a general sense of agreement around the table, unless someone wants to speak strongly in favor of financial conditions. President Stern.

MR. STERN. No, I don't want to speak strongly in favor of retaining the reference to financial conditions. But I do think, along the lines that Governor Kohn expressed, that we need to provide some basis for our expecting moderate growth to continue. Otherwise that sentence does come across as an act of faith and doesn't seem to me to be particularly compelling. I don't see that mentioning financial conditions does us any damage, and it's actually valuable in providing some rational for that judgment—and that is the judgment.

CHAIRMAN BERNANKE. That was our objective, and we're trying to find short ways to say it. Anyone else? President Hoenig.

MR. HOENIG. Mr. Chairman, I don't have any problem. I agree with Cathy on the length. At the same time, I don't think focusing on financial conditions is a particular problem because what you've said about having that in there can be said about anything else that you put in. What happens next time if income is lower and so forth? So I don't think that "financial conditions" in and of itself matters one way or the other. I also agree with Governor Kohn that we do need to have a rationale. We can't just take it on faith. We went down this road some time ago, and this is what we have now; so I think we do owe people some explanation, Cathy.

MS. MINEHAN. This whole statement is on faith, though. [Laughter] It relies on economic models and forecasts and a ton more detail than we can ever express. We say that recent indicators are mixed. We say that the housing adjustment is ongoing. But if we take it all together, we still think the economy is likely to expand. Aside from writing a treatise here, I don't know what more we can say that we could all feel comfortable with and not have to reconsider.

CHAIRMAN BERNANKE. President Moskow.

MR. MOSKOW. I agree with that. If you look at what we said last time, the only reference to any specifics was to housing. If we stop the statement after the word “quarters,” that’s exactly what we’ll have this time. Now, I would make a minor suggestion. The word “still” could be changed back to “overall” and just continue what we had last time. “Overall, the economy seems likely to continue to expand at a moderate pace over coming quarters.” That wording encompasses that we’ve looked at all of the information and that’s our assessment.

CHAIRMAN BERNANKE. The difference is that the first sentence last time was a positive sentence. The first sentence this time is a negative sentence.

MR. MOSKOW. That’s why I think the word “overall” would help.

CHAIRMAN BERNANKE. “Overall, however.” [Laughter]

MR. MOSKOW. I thought about “however,” but preferred not to use that language.

CHAIRMAN BERNANKE. All right. Any other two-handed interventions? Governor Mishkin.

MR. MISHKIN. Thank you, Mr. Chairman. To get perspective on this, again, I go back to where I think we were in December. We’re really not that much different in our forecast from December, except that we have a little more uncertainty. That means that for the assessment of risk I lean toward keeping the same language from the last meeting and from the December meeting, particularly because of the issue that President Hoenig mentioned—that we need to indicate that we are still very vigilant on inflation and that we’re worried about it. A further issue is that I think the change will be seen as removing some of the bias, which will have a big impact on the markets. That’s where I was before the meeting. However, Vince has been very convincing. Maybe it’s his wonderful vests. [Laughter] You might notice, Vince, that I tried to liven it up by wearing a double-breasted suit. So we have a little action going on here, different from the usual. [Laughter]

It's really the ghost of 2000 that worries me. The argument that we could be in a situation in which we get a shock and need to have the flexibility to deal with it is actually very important. In that case, I have concerns along the lines of President Hoenig's, but I'm willing to live with the new language in alternative B for the reason that you mentioned. Because I think "predominant" has a little stronger connotation—not because of the dictionary but because it was used in the testimony—I would stay with "predominant." It is just sort of an offset, and I would keep it on that level. In terms of the big debate about what we do regarding the rationale, I think it is a tough call. I do not like mentioning financial markets, as Governor Warsh said. Then crafting the language is very difficult. So I guess I end up with the KISS principle, which is "keep it simple, stupid," and I would put a full stop after "quarters." Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Vice Chairman Geithner.

VICE CHAIRMAN GEITHNER. Thank you, Mr. Chairman. I'm very comfortable with the center of gravity in this discussion. The boundaries have shifted just a bit, and we face a little more uncertainty on the growth front. But I think there's still asymmetry in the balance of risks that we face, and we need to continue to highlight the risk that inflation may not moderate enough. The probability that we will tighten further has significantly diminished, but I think our expectations about what makes sense for policy are still above the market's expectations. I don't think that situation means that we need to try to push the market's expectations up to ours. By adjusting the statement slightly in the direction of neutral, we face the risk that we all acknowledge that the market will price in more easing than they already have. But it is better to live with that risk than to preserve a formulation that implies a probability of further tightening that I don't think is justified. We need to give ourselves the flexibility now to move to neutral sooner than might have seemed likely. Therefore, the broad outlines of alternative B make sense to me.

On section 2, as Don said, the reason for putting more texture about the basis for our forecast going forward was, in part, to counteract the fact that we're suddenly darker about the near-term outlook. The absence of any texture on our forecast makes the statement darker and conveys more concern. So although I like minimalism and although a lot of sensible things have been said about the specific references to financial conditions and housing, I think there's some value in having more texture about the basis for our view. I'm not as troubled about the reference to financial conditions as many of you are. We could modify the rationale to say "supported by income gains, overall financial conditions, and the gradual waning" so that the characterization of financial conditions is implicit rather than explicitly favorable. But I don't think that doing so would go far in meeting the concerns expressed around the table. So I would be fine with the Moskow formulation, stopping after "quarters." I think the rest of the wording has it right.

On "predominant" versus "principal," let me give just the following argument. I don't believe that a plain language reading of the two words justifies the conclusion that "principal" will be read as softer than "predominant." People disagree, and in answering the question about what we expect to achieve by changing "predominant" to "principal," I'm not sure we'd win the basic argument that people would say, "Yeah, it's softer." So, on the argument of consistency, I would stay with "predominant." I don't think our views of the risks on the inflation front have shifted significantly since the testimony, and so I don't have any problem with maintaining that. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. President Hoenig.

MR. HOENIG. If I could, I'd like to clarify slightly my earlier comments in the sense that I'm not of the view that the language should stay in terms of a bias toward tightening because I think we need to tighten. My view has been that we are modestly firm and that we should be

conveying to the market that we are going to stay modestly firm until we see a consistent decline in the inflation numbers that we have. The difficulty is trying to explain that in language. So what we end up with is a kind of Hobson's choice: We leave the language as it has been, therefore signaling that we will stay firm, or we change the language to say that we will be dependent on the future data—which is, I think, also accurate. But making the change tends to confirm the view that now we are more likely to ease than we really are. Either way, we are giving signals to the market that are not exactly what we want to explain. So which of those do we choose in order to keep expectations from changing too dramatically? That's really my point as I've thought about this, which I wanted to clarify. Thank you.

CHAIRMAN BERNANKE. Governor Kroszner.

MR. KROSZNER. As I said in my discussion, obviously I'm very concerned about a reference to financial conditions, especially "still-favorable financial conditions." But as I also said, I think that it hangs out there a bit naked without some color around it. I would be fine with keeping personal income gains and the gradually waning correction to the housing market. My preference would be just something like "income gains, among other factors" to put something there. But that may be so weak that it may be better to cut off. I'm sympathetic to having some color, but I think the wrong color is the financial market condition.

CHAIRMAN BERNANKE. Governor Kohn has suggested "supported by gains in income and the anticipated gradual waning in the correction of the housing market."

MR. KROSZNER. That would be excellent.

VICE CHAIRMAN GEITHNER. Mr. Chairman.

CHAIRMAN BERNANKE. Vice Chairman.



VICE CHAIRMAN GEITHNER. That wording has the virtue of being true in that it is the basis for the central forecast.

CHAIRMAN BERNANKE. An additional advantage. [Laughter]

VICE CHAIRMAN GEITHNER. It is what we think. The problem with it is that, as Don said, the reference to gains in income itself is empty, and putting so much emphasis on housing as part of our forecast for growth being basically fine going forward is a little awkward. My view is the corner solutions are more attractive than the intermediate, and they are either some modified version of what we have now or a return to minimalism with a stop after “quarters.”

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. Yes. I’m really sympathetic to Randy’s view about financial conditions. I’m sympathetic about “financial conditions” because I think there’s real potential for confusion in markets about how the phrase relates to policy and whether we might ease if things got too chaotic or volatile. But I agree with President Stern that a little more texture on what we’re doing is fine. I share Governor Kohn’s view that appealing to endogenous variables as if they’re an exogenous cause for belief in support is a little confusing, but in the context I think the reference would be taken to signal that we expect consumption growth to support the expansion. I just wanted to register that.

CHAIRMAN BERNANKE. Thank you. Has everyone spoken? Well. [Laughter] Let me try to find a consensus here. First, I agree with the sentiment around the table. I recommend no action today. We should continue to emphasize inflation risk—I think there’s a strong feeling that it remains the greater risk. There is acknowledgement that uncertainty and risk have increased on both sides of the dual mandate, but the balance of risks does not seem to have changed very much. Supporting the idea of keeping the rate where it is that, as best we can tell, the level of the rate

currently seems about right to foster our objectives. Also as people have noted, by standing pat, we have considerable ability to tighten de facto as market expectations move toward our actual revealed behavior. So I would counsel patience on the rate and maintain the rate at its current level today.

Let me take a stab at the statement. I think we all agree on section 1. [Laughter] On section 3, let me note the suggestion of, I think it was President Stern. I'm sympathetic. I didn't hear much support, however, and again, it's a change. So I would recommend that we stay with the current section 3.

On section 4, first a small point. I think the mild preference was for "predominant" over "principal" as consistent with my testimony. To the extent that we're trying to lean against easing of expectations, if "predominant" is slightly stronger, it would be beneficial in that respect. So let me propose that change. I recognize the risk that the second sentence in section 4 has the potential to mislead the market a bit. My concern is that the second sentence that we have been using is simply not literally true anymore. The implication is that we are certain that the next move is going to be an increase, and it's only a matter of when and how much. We have been trying for some time to get out of that language and to get to something that is more descriptive. The benefits of the second sentence are, first, that it does create more flexibility and, second, that it refers only to things on the right-hand side of the Taylor rule—that is, inflation and output—and doesn't make a statement about future policy actions, which most people seem to prefer avoiding whenever possible. Again, although it will be viewed as a small step toward balance or flexibility, we are fairly strong in our statement of inflation risk. In particular, we've introduced here not just that we think there are inflation risks but that our specific concern is that inflation will not moderate, which is a different and somewhat stronger statement than we have had. I acknowledge that there may be some market rally based on this, but with President Poole, I think that the data will dominate as we

go forward. Indeed, the endogeneity of interest rates and their stabilizing effects are very important assets that we have in policy.

With respect to the description in section 2, the intention was, given that the first sentence is relatively negative, to give some modest rationale for our thinking that the economy seems likely to continue expanding. Let me try one more suggestion. Perhaps we can find a solution. One reason that a quick summary is difficult is that the story for recovery is, in fact, fairly complicated. It involves certainly the ending of the housing correction but also assumptions of inventory correction, of investment coming back at a moderate pace, and of a number of other things. The notion here was to look at more fundamental factors that would be underlying the assumption of growth, such as income, which has grown rapidly, and supportive financial conditions. But I hear the concerns. The Greenbook forecast calls for moderate growth in essentially all of the components except for housing. In particular, it expects consumption to grow more than 2 percent; investment, more than 2 percent; support from government spending and net exports; and so on. So something along the lines of “supported by growth in nonhousing components of final demand” might be a descriptive way of saying that we think that, although housing will be a drag, the other components of the economy will support moderate growth. That’s a suggestion.

MR. MISHKIN. Could you repeat the sentence?

CHAIRMAN BERNANKE. The last phrase would be “supported by growth in nonhousing components of final demand.”

MR. MISHKIN. Two hands.

CHAIRMAN BERNANKE. Yes, Governor Mishkin.

MR. MISHKIN. I’m a little worried about that because there’s been such a big deal made about the housing market and the media have been making a big deal that it’s going to collapse. We

mention in the first sentence that it has gotten weaker, and if there's no counter to that, which is part of the view that we think there's some stabilization of demand, I would worry. So, I worry a little that by saying "nonhousing" we don't have enough of a counter to the first sentence. When I first read this, one reaction I had was to follow the KISS principle; but that worried me a bit because we changed from the previous statement in which we said we had a problem in housing. Then it was all right because then we came back and said, "Yes, but we think it's going to work out okay in the end." So there's a little tension here that worries me about saying "nonhousing," which may spook the markets a bit.

CHAIRMAN BERNANKE. President Poole?

MR. POOLE. I would also point out that, people may read "economy" as being GDP. If you take housing out, the rest of it is GDP. The way you stated it is a bit of a tautology. I think the simplest thing is just to change "still" to "nevertheless." "Nevertheless, the economy seems likely to continue to expand at a moderate pace," and just leave it at that.

CHAIRMAN BERNANKE. Okay. I think that's where we're heading. Vince.

MR. REINHART. First, I'd like to thank everyone for validating my own career decision. [Laughter] Second, in your description you use the word "fundamentals," which might be a substitute for "financial conditions." You could say "supported by still-favorable fundamentals, including gains in income and the waning of the correction in the housing market."

CHAIRMAN BERNANKE. That is similar to what Governor Kohn suggested. I got the sense at the time that it wasn't well received. All right, I think we're not going to come to a conclusion. So I think we need to accept President Minehan's suggestion. Was there other comment? Starting with "nevertheless" might be better: "Nevertheless, the economy seems likely to continue to expand at a moderate pace over coming quarters." Okay? President Plosser.

MR. PLOSSER. Just a moment. I think I'm fine with that. I like your suggestion for changing it that way. This speaks volumes about our next topic of discussion of communications and how we convey more about what we think rather than being confined to the structure of this statement. I'd also like to pick up on another comment that you made. I spoke before President Stern, but I think that President Stern's suggestion to replace sentence 2 in section 3 with sentence 2 in section 3 of alternative C would be a big improvement. Since you alluded to that suggestion and said that nobody came to support it, I just want to add my support to that suggestion.

CHAIRMAN BERNANKE. Are there others who would like to make that change?

SEVERAL. I support that.

OTHERS. No, I— [Laughter]

CHAIRMAN BERNANKE. Vice Chairman.

VICE CHAIRMAN GEITHNER. Considerable uncertainty has surrounded our forecast of inflation for some time. That's how we refer to the fact that there are inflation risks. We have now changed the characterization of the statement to acknowledge the fact that the recent readings have been somewhat elevated. That implicitly acknowledges that there's some uncertainty to our forecast. I don't think it's a justifiable change. I don't think there is substantial increase in our uncertainty about the inflation forecast today versus January or even December.

CHAIRMAN BERNANKE. Let me ask your indulgence on leaving it the way it is this time and thinking about it more carefully for the next meeting. Are there any other comments? Should I read it? [Laughter]

MS. DANKER. I'll take a stab at it.

CHAIRMAN BERNANKE. You'll take a stab? All right.

MS. DANKER. Okay. Let me start with the directive on page 28 of the Bluebook.

“The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output. To further its long-run objectives, the Committee in the immediate future seeks conditions in reserve markets consistent with maintaining the federal funds rate at an average of around 5¼ percent.”

Now the amended assessment of risk:

“In these circumstances, the Committee’s predominant policy concern remains the risk that inflation will fail to moderate as expected. Future policy adjustments will depend on the evolution of the outlook for both inflation and economic growth, as implied by incoming information.”

Chairman Bernanke	Yes
Vice Chairman Geithner	Yes
President Hoenig	Yes
Governor Kohn	Yes
Governor Kroszner	Yes
President Minehan	Yes
Governor Mishkin	Yes
President Moskow	Yes
President Poole	Yes
Governor Warsh	Yes

CHAIRMAN BERNANKE. Thank you. Michelle, could you work with Debbie to get a printed version of the statement that we’ll circulate after the break so everybody can at least familiarize themselves with what we’re saying here today? [Laughter] All right. Why don’t we take a coffee break for fifteen minutes? Thank you.

[Coffee break]

CHAIRMAN BERNANKE. Why don’t we recommence. Governor Kohn.

MR. KOHN. I’m reading the statement. [Laughter] But it didn’t take long. [Laughter] I think Carol has redistributed the list of questions that came from the memo that Vincent sent around.<sup>4</sup> There have been slight rewrites of questions 5 and 7, but the idea is basically the same.

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<sup>4</sup> The list of questions to which Mr. Kohn refers is appended to this transcript (appendix 4).

I want to start by thanking the staff for all the background memos. I thought they were particularly clear and helpful. We are not going to have staff briefings this morning, in part because they did such a good job on the memos that I didn't think we really needed to follow up with briefings this morning. But thank you all very much.

We have two items on the agenda—the numerical specification of price stability and the trial run on the forecast and the forecast narrative. On the price stability objective, you have the questions in front of you. Once we finish the discussion, the subcommittee will compile the results, try to ascertain where we are and what the center of gravity would be, and consider what the next steps might be, depending on what people say. On the trial run, I don't anticipate an extended discussion. If people have major issues and questions to raise, they should raise them. But much of the idea of the trial run is to uncover major issues and questions, so I hope that the discussion can be relatively short. That's all I have to say by way of introduction, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. I'd like to make a couple of prefatory remarks. Some of the issues here are political in nature, so I'd like you to know that I have consulted a bit with the Congress. I did not go to negotiate, I went to inform, and therefore I don't have any commitments to bring to you. But I was generally pretty encouraged by my discussions. I had the sense that—and this is a very important caveat—so long as our commitment to the dual mandate remains strong both in word and in deed, we will get a fair hearing if we decide to go forward. I also have a very strong impression that the risk of going into directions that we don't want in terms of opening up the Federal Reserve Act and so on is quite low and can be managed. So we should think about this today on its merits. If we decide to go forward, we'll have to develop a strategy; but I don't think that there are immediate barriers from the political side to prevent us from considering this.

That being said, I just want to say also that we have not decided that we are going to agree on an objective. There are various possibilities. We could agree on an objective. We could agree to agree but to do it in a staged and gradual way. Or we could simply not agree on an objective. Even so, I think that the discussion today would be quite helpful for our internal discussions because I'm not the only one who feels that a certain amount of disagreement exists around the table that may be associated with views on what inflation should be and how we should measure it. Again, we have not made any decisions, and I hope today will give us some more insight about how much consensus we have.

Just a word on the projections: As was noted, I think that a minutes-style process could be a useful way to make sure that everybody has seen the document. But I want just to make clear that, if we do these projections, twice a year the projections, the commentary, and so forth will have to appear in the Monetary Policy Report to the President, which is about two weeks after the meeting. Therefore, we will have to work toward ensuring that we can do this in about a two-week period, or a little less than the usual period for the minutes. I just want to make that clear.

Finally, I think we're in pretty good shape on time, but we're responding to several requests. We are going to try very, very hard to be finished by 3:00 p.m., so I hope everyone will keep that in mind as we go through the discussion. The discussion is open for comments on the questions that the Committee raised. President Poole.

MR. POOLE. Well, let me just go bing, bing, bing, bing. I think it probably makes sense, Mr. Chairman, to take up these two topics separately, so let me start on the price objective. My answer to question 1 is "yes": I think the objective should be defined numerically. I believe that the core PCE is the right index. Many of us have talked about that, and we sort of coalesced



around that measure. I would like to see the goal stated as  $1\frac{1}{2}$  percent, plus or minus  $\frac{1}{2}$ . To me, it makes sense to have a central point there, but you have to have a range. I would like the goal to be stated as in the medium term. Ordinarily that might mean something like two years; but under certain circumstances, it has to be longer because, if you had a September 11 type of event, you would want to make sure that you were not driving the economy in the wrong direction by going after the inflation goal in too rigid a fashion. I think there should be a consensus view of the Committee—question 5. In answer to question 7, I think it would be extremely awkward if we had separate views made public. The question would be, Why does Poole differ from Bernanke? Or if Bernanke didn't answer, what is Bernanke's view? I think we'd just get ourselves into a peck of trouble if we tried to do this freestyle. If we're going to do this, I think we really need to have a Committee decision. Thank you.

CHAIRMAN BERNANKE. Thank you. President Fisher.

MR. FISHER. Well, Mr. Chairman, I've given this a lot of thought. If you remember, in the last round I asked for a compelling argument for adopting a stated specific inflation target. I noted that it was not at all obvious that the countries that have adopted a specific inflation target have done better than we have in terms of economic performance over the past decade or, for that matter, better than countries that have not adopted a target. One could make the counterargument that it's not at all obvious that countries that have adopted numerical definitions have done worse than we have. I understand and respect tremendously the theoretical arguments that can be made to validate adoption of a numerical inflation objective. However, to my mind our vulnerability is not with economists or even with what we used to call the "quant jocks" on Wall Street. Our vulnerability is with those to whom we are accountable—the people and the

representatives of the people. Also, I'm not convinced that a numerical target is necessary at this stage.

I do note that others have done this. I raised four children. One of my first instructions to my children was, "Just because everybody else is doing it doesn't mean you have to do it." I'm mindful of that today. [Laughter] I'm mindful of the fact that other countries have adopted this for different reasons. We know about the U.K.'s "Great Moderation." I understand the use of a numerical target in terms of the ECB, given the complexity of many countries, non-uniform data, and a population base that keeps changing. I understand that the Bank of Japan had been so totally discredited that it was necessary to adopt such a target. I understand that the New Zealand government was so grossly incompetent that they had no choice but to adopt a target. I consider other countries a bit too small to be persuasive. We talked about one of them last time. So my real issue is that I can't find a compelling case for or against, but I'm not of the nature that I like to join the crowd for the sake of joining the crowd.

I don't think it is a sufficient reason—and I can say this because I am the least academically prepared at this table—to do so at this time for the purity of what are very respectable theoretical arguments. I'm mindful of the politics. You and I have talked about this personally, Mr. Chairman. I am grateful for the comments that you made at the beginning of this discussion. Let me just state parenthetically that Barney Frank is one of the smartest men I know. He would actually understand that the word "stochastic" derives from the Greek "stochasticus," which means "skillful in aiming," and he probably knows more than any other congressman about this subject, even though he has drawn what appears to be a line in the sand. But that's not what I'm worried about. I am worried about whether or not we've accumulated sufficient political capital to sell this to the rest of the Congress and to the representatives of the

people, and I'm a little concerned about the timing of our doing so. We spent the past two days talking about downside risk to the economy. Some of us feel, as I stated in our earlier discussion, that we may be just a revision away or perhaps a shock away from some economic turbulence, some economic weakness, and perhaps a recession. I wonder about the optics, Mr. Chairman, of our dwelling on this subject at this time, given that there doesn't seem to be a compelling need because we don't have the same conditions that the United Kingdom, the ECB, the Bank of Japan, New Zealand, and others faced.

Having said that—and I'm going to just shoot everything at once and then I'll be done—I think it is implicit in question number 1 that we are going to adopt this, which I am not in favor of. But if I had a gun put to my head and someone said, “You must adopt this. What is your preferred index?” I would say, being someone who has an M.B.A. and not a Ph.D., that, first, it is important that we adopt whatever target we adopt such that businessmen, businesswomen, financiers, and other economic agents do not need to take inflation into consideration in their decisionmaking. Second, it must be politically palatable and credible and easy to understand. Ordinarily I would argue, if it weren't for those two conditions, for what we love in Dallas, which is the trimmed mean; but that is way too complicated to explain to the public. But I would also argue against the PCE excluding energy and food. I would argue for adopting the CPI. I would argue for a 1 percent target over a three-year to five-year period. Over time they all converge at any rate. By the way, as far as I'm concerned, if my math is still correct, 1 percent means that prices double every 72 years, which is a reasonable lifetime, and given the  $\frac{1}{2}$  percentage point measurement bias, that might actually mean they double every 140 years, which is about as much as I would like to see. So I would argue for a 1 percent target based on the CPI—if you put a gun to my head, which I hope you don't—over a longer time frame.

As far as Committee participants arriving at a consensus view on this goal, I don't think consensus is essential. In fact, you could have the Committee report a central tendency or some range. I'm not going to get into questions 5, 6, and 7. I want to go to the forecast narrative, which concerns me. As we've talked about before, I'm not in favor of full frontal views. I took note of Governor Kroszner's comment about "kabuki" earlier; I think it's good to preserve a little kabuki. If we are going to communicate with the public, we need to communicate in understandable language. I don't wish to give offense, but I know I will—I would not be in favor of the staff drafting that statement. I would be in favor of writing it in the simplest possible language. I suggest, Mr. Chairman, that it would be more appropriate for, say, our communications staff or Michelle or somebody like that to draft this statement so that we communicate to the public in a way that is comprehensible. I was taken aback at even the use of the word "stochastic" at the end. We know what that means. The people have no idea what "stochastic" means. Again, I return to my root question. With whom are we trying to communicate? We talk about the markets. The markets are what—economists, theoretical economists, econometricians, ourselves, people on Wall Street, sophisticated operators of financial markets, businesswomen and businessmen, or the public in general? My greatest fear is doing anything that would impugn the integrity or threaten the preservation of this institution, and so I want to plead with you and with the rest of the people around this table: (1) to consider whether we really need to adopt an inflation target at this time and (2) should we do so, to make it as simple and comprehensible and easily communicated as possible and to do so in the same way with the forecast that we are discussing the possibility of issuing. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. It won't surprise anyone that I believe the Committee should adopt a numerical objective for inflation for reasons that we have discussed at great length over the past several meetings—namely, to clarify our internal deliberations, to clarify the public's understanding of our objectives, and to enhance our accountability for achieving those objectives. I just do not see how any useful purpose is served by retaining the discretion to vary our objective from medium-term and longer-term inflation trends.

Following Vincent's outline, I believe our objective should be stated in terms of the broadest available measure of the purchasing power of money. The best measure we have of the true consumption value of the dollar is the price index for personal consumption expenditures. I believe that the overall index would be preferable to the core as an objective. I know I've argued in the past for focusing on core PCE; but on reconsideration, I've changed my mind. The various arguments for excluding food and energy are narrow, they're somewhat technical, and they're difficult to explain to the public—I should know, I've tried. [Laughter] The arguments are incomplete as well in the sense of the range of considerations that one has regarding choosing the inflation rate—only some of them tell you to stabilize the core inflation rate. Reducing uncertainty about the rate of return on the purchasing power of money suggests a broader index and one that is much easier for the public to understand. Moreover, I don't think arguments for the core, the way it is constructed now, are likely to be robust to structural changes in the economy, shifts in what prices are sticky, what prices are not, what are market determined and what not, and stochastic properties of various components of inflation. Granted, the overall index is more variable than the core right now, but fluctuations in the overall index are more transitory than the core as well. We're naturally going to factor that variability into our forecasts, our actions, and our communications. In explaining the transitory influences on the

overall index, we can easily refer to the core, if that makes sense, as aiding our judgment about where the overall index is going to go. The fact that various payment programs like Social Security are indexed to the CPI is, in my mind, of no consequence for this choice. If we target the PCE price index, it will naturally rise in prominence over time. No matter which index we use to stabilize, people with income indexed to the CPI are going to be exposed to the risk associated with the measurement error in the CPI. It doesn't matter what we target; they still bear that risk.

Although I and others have discussed a range of comfort zones in the past, I'm uncomfortable with the ambiguity of presenting only a target range for inflation. When inflation is above the target range, for example, the public would be unclear about whether we intend to bring inflation back to the center of the zone or whether getting just inside the top of the range would constitute success in our eyes. I think it makes most sense to specify our objective as a single number but also to provide a range around the objective within which we would generally expect inflation to remain and to provide a sense of how close to our objective we expect to be on average; that would help enhance our accountability.

What number should we choose as an objective? Our inflation mandate specifies price stability. The biases in our measures of inflation imply that price stability corresponds to something a bit below 1 percent for the overall PCE right now. The main consideration usually advanced for choosing a number appreciably above price stability is the notion of building in a buffer to reduce the probability of encountering the zero lower bound on nominal interest rates. There seems to be substantial popular confusion about the zero bound and its implications for monetary policy. But I agree with you, Mr. Chairman, that we have all the tools necessary to deal with this problem. Now, granted, the effectiveness of some of those tools would depend

critically on communicating credibly to the public, so the zero bound might present us with some unique communication challenges, should we encounter it. I can imagine giving such potential challenges some small weight in choosing a target value, but I emphasize small because, as I said, I believe we would have all the tools we need at our disposal, and we ought to be able to communicate that fact.

Taking all of this on board, I believe 1 percent would be our best choice for a numerical inflation objective. I believe 1½ percent would be tolerably close to price stability, but I view 2 percent as incompatible with our price stability mandate. Should we adopt an objective above 1 percent, however, we should not emphasize the zero bound because doing so would only reinforce the public's sense of anxiety should the situation ever arise. I think we should provide the guidance that we expect overall inflation to generally remain within plus or minus 1 percent of our objective. We should view our choice of objective as close to permanent—this is important. That is, we should be extremely reluctant to alter our numerical target. We are inviting people to make long-run plans on the basis of our commitment, and they should be able to count on us over the long haul.

A corollary of viewing our choice as permanent is that we should not place any weight at all on current initial conditions and the associated transition costs when choosing what to target. A universal property of monetary models, and many other models as well, is that initial conditions have no bearing on the long-run inflation rate under optimal policy. It doesn't matter where you start; you get to the same optimal inflation rate in the end. Furthermore, choosing a target closer than otherwise to where we are now in an effort to avoid transition costs would delay and dilute the contribution to our credibility—delay because eventually the inflation rate will change and we will need to take action to return inflation to target, and dilute because

choosing a target to match current inflation will encourage the public to believe that if inflation drifts away we might change the target again to avoid short-run transition costs. After all, a fear of transition costs is exactly what discouraged us from taking sufficient action to stem inflation before 1979. Moreover, the staff memo by Reifschneider and Tetlow shows how the transition costs can be minimal if we successfully communicate our intentions.

Question 4 is, What's the time horizon by which the goal should typically be achieved—that is, how long would we expect it to take to get to the target at any point in time and from any state of the world? Well, this may vary. I believe that most of the time we should be able to conduct policy so that inflation is expected to return to the objective within two years, assuming that the public understands how we are conducting policy. An important consideration here is that the credibility of an objective will depend on the public's ability to assess our adherence to it. The longer the time that we allow for expected returns to target, the more often shocks will interfere and the public's inference problem will be that much harder.

Question 5 has been reworded. Should the Committee participants jointly decide on its goal, either through a formal vote or an informal consensus? You know, if that means striving for broad agreement, yes. If that means an individual participant should be able to veto an agreement, my answer is no, especially if it's President Geithner. [Laughter] Question 7 is, Should participants' views be made public in the minutes? I guess this question has been reworded, too: How should the public be informed? If I'm reading this correctly, it refers to how the various views of participants that are expressed during deliberations on establishing a numerical objective be revealed or not. I see no reason that dissenting views should not be faithfully reflected in the minutes. But I'm assuming that, once a decision is made, participants



are going to accept the agreed-upon goal as the Committee's objective and the basis for policymaking.

Regarding the trial run, I support doing one in May. I only have a couple of minor comments. The first is that I would take the instruction to base projections on "an appropriate path of monetary policy" to mean an appropriate reaction function because I think conditioning on a fixed, time-invariant path for the policy rate doesn't make much sense and makes it harder to explain what the fan charts are all about. I would also note that the way in which the simulations underlying the confidence intervals in the fan charts are presented, at least as I interpret them, did not appear to capture parameter uncertainty. Perhaps other sources of uncertainty as well are omitted. We should strive to construct those so that they do convey all the sources of uncertainty that we're capable of incorporating, so they should be comprehensive in that regard. That concludes my remarks. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Mishkin.

MR. MISHKIN. First of all, I really want to congratulate the staff on the documents they produced. When I was thinking about how they might be written, I would have had a hard time figuring out how to make sense out of all of this. It was really extremely well done, and so you really deserve congratulations on this. One thing I find, by the way, in talking to staff members is their incredible professionalism. When you ask them to do something that's really hard to do but important, they love doing it. That professionalism showed in this case.

Let me go down the list of questions. Obviously, I don't think my answer to number 1 will be a huge surprise. [Laughter] Some interesting discussion would be created if it were different, but clearly I believe that having a numerical price objective is important. The reasons are the ones I've discussed before. Very briefly, I think it clarifies communication with the

public, the markets, and the politicians. It increases transparency and accountability, which I think is a key issue for central banks. Also, a numerical objective would actually improve the clarity, and has improved the clarity, of discussions about monetary policy inside central banks. I think it would help in this context in the FOMC as well. The reason I think it would is that it would lead more naturally to discussions about policy in terms of appropriate inflation paths. That is the way that modern monetary policy analysis indicates is appropriate for us to think about how we do our policy. It actually is an element now of the way we discuss policy, but I think a numerical price objective would make the discussion even clearer. If we were having such discussions inside, at some point the numerical objective would have to go outside. There's an issue about transparency here. If we're going to clarify how we make policy inside and we're not telling the public how we're doing it, at some point it will leak out. Then we look foolish or as though we have not been transparent, which I think is also a problem.

So there always are issues. The devil is in the details, and that's really what the questions are dealing with. I like to think about the principles by which I deal with the rest of the questions. A numerical inflation objective has to have three important features. First, the objective needs to be absolutely and clearly consistent with the dual mandate. That's also very important politically, but I strongly believe in the dual mandate, and so we have to make sure that that's the case. Financial stability concerns, though you might consider them somewhat separate, are part of the dual mandate and, as such, are clearly key to how we do this. Second, the objective has to be easy to communicate clearly to the public, which is something that President Fisher pointed out. Third, the objective needs to be evolutionary because we want to build on our successes and because it would be politically more palatable. All three of these features, by the way, are actually very important in terms of the political process, in terms of

talking to the public about how we are conducting policy, and in terms of helping them have confidence in it.

Regarding the questions, I want to start with question 4, because I think that question—the issue of the appropriate time horizon—is critical to thinking about all the other questions. The first part of the question is to ask what kind of things might affect the time horizon. The reality is that the time horizon can have a lot of variability. The science of monetary policy, or the economics that we have learned over the years in terms of the best way to do monetary policy, says that, in fact, your horizon is going to change depending on how far away from your ultimate goal you are currently, what kind of shocks you've had, whether the shocks are temporary or permanent, how big the output gaps that you project are, and then, clearly, what the financial stability issues are. If you get shocks to the financial markets, you have to worry about them. So my thinking is that the minimum time horizon is going to be two years because that's effectively the policy period. But the horizon could be substantially longer than that, and I think this is extremely important in the design because it has a big impact on the issue of the dual mandate. I think it's absolutely critical that we make it clear that the horizon would sometimes have to be quite long. In fact, from a political viewpoint doing so is extremely important because by indicating that the horizon could be sometimes quite long we are actually indicating that we care about output fluctuations, which is a key element of the dual mandate. Politically it is also important because it makes it clear that we would be unwilling to beat the economy over the head with a baseball bat in order to get inflation down quickly. Again, that indicates that we do care about output fluctuations. So I lean toward not being too precise about the horizon but, instead, indicating that the objectives to be achieved in the long run are sort of on average over

the business cycle. The Chairman used language like this in a speech in St. Louis in 2003, and I was very comfortable with that language.

Let me deal with the other issues, some of which I don't have strong views on, but I can give you the different sides. On the issue of the price index, I really don't have strong views. It's really six of one and half a dozen of the other. I lean slightly toward the CPI because it is more readily understood by the public. It's what is reported every month. It might even have an advantage in that it is never revised. The R&S document actually changed my view on this because I think you are quite right that from a policy viewpoint it doesn't really matter. But there is the issue that when a revision occurs and is, for example, upward, it may look as though you didn't do a good job when in fact, with the information you had, you did the best job possible. So the lack of revision has a bit of political advantage, although not an advantage from the view of actually doing policy. I think you're quite right in that regard. What is the advantage of the PCE index? It has the advantage of continuity, so it fits the evolutionary element that I talked about. It also has slight advantages on a technical basis; however, they're not as big as they used to be. When the Fed went to the PCE instead of the CPI in talking about the inflation numbers at which it was looking, doing so then was more necessary than it would be now. The bottom line here is that I'm willing to go with whatever other people are willing to go with on this, but I have a slight preference for the CPI.

What about headline versus core? I have problems with a core measure from the following viewpoint: There is really no one right measure of the core, and theory can change in telling us what it should be. Also, regarding the issue of whether the core has the more permanent trend elements, let me give a case as an example in which that might be shifting. Usually we think of food prices as very temporary because they have to do with drought,

anchovies leaving the coast of Brazil, or something like that. But think about the case of ethanol right now: There's a push for ethanol production. I have to tell you, I think that is a very bad piece of public policy. However, it could have permanent effects. I'm sorry, Tom, it's going to help your District.

MR. HOENIG. No, it won't. [Laughter]

MR. MISHKIN. I don't think it's a good idea. It may have much more permanent consequences for food prices. Then, should you necessarily exclude food from the core when, in fact, it's more of a permanent shock? In that case, I think there are issues. Another critical issue relates to the horizon. If you think that the horizon should be long or not precisely defined, then the difference between core and headline becomes much less important because, in the long run, the number that you should shoot for in the core will be the same as shooting for that number in the headline. In this context, it makes sense to use a headline measure, not a core measure. However, for policy discussions we will need to continue to refer to the core, particularly in regard to shocks such as the recent episode with energy. In fact, other central banks have successfully done so. I think the International Finance document talks a lot about Canada and how they've done it exactly this way.

On question 3, point goal or range, again the time horizon is critical. If you have a fixed period for evaluation, there is no question to me that a range makes a lot of sense. It nicely shows that you care about uncertainty. I recently wrote an academic paper that shows that a range has very nice properties in terms of the appropriate objective function that you get and the behavior of a central bank, because it's clear that you'd be shooting for the midpoint and then there's some uncertainty around it. The problem is that, if you take my view that the horizon should be potentially long or not fixed, then talking about a range creates confusion. A range

then looks like a zone of indifference. So if we took a number such as 1 to 2 as our comfort zone or range, would 1.9 be okay relative to 1.5? As the purpose of talking about a numerical inflation objective is clarity, I think that a range would be a mistake. It also could mean that inflation expectations would be less grounded. When inflation goes up to 1.9 versus 1.5, people might move up their inflation expectations up. Again, we would be losing one of the key benefits of having a numerical inflation objective. One thing that was not in the IF document—and they shouldn't have put it in because it's a private communication, but I can—is the issue of Australia. Australia is one of the countries that have a “comfort zone” range. They call it a thick point, and they talk about a number over the cycle. It hasn't been a disaster, so it is not a huge deal. But officials there said, “You know, if we had started this process a little differently”—they had to convince their governor, who was not particularly enthusiastic initially about inflation targeting and so used a thick point—“it would have been better if we had just picked a number.” So I think they have some discomfort. My research is not scientific—it comes from sitting and having a beer with them in the pub—but I think their experience argues for a point target.

What about the issue of level? Again, this is very important. I have to point out that my perspective reflects my views on the way the economy works and the way expectations work. I strongly believe that just announcing an objective will not substantially change inflation expectations. The Chairman and I participated in writing a book on this topic. We looked at the adoption of inflation targeting by many countries, and the evidence was that it did not change inflation expectations immediately. In fact, expectations were anchored over time through actions and through having inflation targeting, which was a huge benefit. Again, the memo by Reifschneider and Tetlow on optimal-control exercises was really terrific—a beautiful memo. I

thought it was just really first rate. When I looked at it, I was very comfortable with the characterization of learning from policy actions. I do not accept the standard view in past Bluebooks that it takes ten years to get down there, which is based on what happened to inflation in the past and then gets incorporated into expectations. I think expectations can move faster than that, but the way you do it is by actions as well as by words. You have to bring out the baseball bat a bit, which indicates that there is some substantial cost to doing so. You saw that in the simulations.

My view is that there are substantial costs to moving inflation expectations down from the current level of around 2 percent. Also, from reading the memo and from reading the literature, I don't see a big difference in terms of economic efficiency between a 2 percent steady-state inflation rate and a 1½ percent steady-state inflation rate. So I really do disagree strongly with you, President Lacker, on this issue. I think transition costs matter. They should be part of our calculations. When I include the transition costs and my view that there's not a huge difference from a welfare standpoint in terms of 1½ versus 2 percent, I'm comfortable with 2 percent.

Let me state one other advantage and then go to what worries me. There is an important political issue here. To me, what's really important is to anchor inflation expectations, and I'll do anything to get there. The actual number is less important so long as it is a reasonable number, consistent with the Greenspan definition of price stability—that is, it's sort of like pornography; you know it when you see it. A number of 2 is certainly consistent with that. But choosing a level at the upper end of what people have talked about in the comfort zone will help allay politicians' fears that we're inflation nutters. It will also help alleviate the fear that we are insufficiently concerned about the second element of the dual mandate and will suggest that we

do care about output fluctuations. I worry a bit that, if we had an objective of  $1\frac{1}{2}$  percent, we could get into the following bind. To be serious about getting there, which would be critical because otherwise we'd lose our credibility, we would need to raise the federal funds rate from current levels, as the simulation indicated, to convince people of our seriousness and that would help bring inflation expectations down. I worry that doing so would make the political environment very hostile, and we could lose support for a numerical inflation objective—that would be very costly—and could weaken the support for our independence. That's the reason I tend to be driven to the 2 percent number.

Let me tell you about the one downside that I think is serious and that we have to think about. There is a downside to a 2 percent PCE objective (or a CPI equivalent, appropriately adjusted). The downside is that we may get the opposite of the automatic stabilizer that was talked about in the R&S document in the context of price-level targeting. I'm going to use an allusion that Dave Stockton mentioned, which I thought was great. It just shows that Dave is watching too many cartoons. Choosing the 2 percent number has something of the flavor of shooting an arrow and then painting the bulls-eye around the arrow; it seems to have an element of opportunism to it. Here's the problem with that kind of opportunism: It can create very bad expectations dynamics, just the opposite of the benefits of the price-level targeting. Say in the future you chose a number. If people think that you might change it again when you overshoot the objective, then inflation expectations would rise because they think you're going to raise the objective. That would then cause inflation to rise more than it otherwise would, and you would get more output fluctuations. So it has sort of the opposite of the benefits that were discussed. The result is that you could actually do much worse in terms of achieving the dual mandate. You could do worse both on inflation and on output fluctuations, which is something that we don't



want to do. I'm not sure how big a problem this is if we communicate carefully the permanence of the number. Here I agree strongly with President Lacker that it's very important not to change the number unless there are very strong scientific reasons to do so. The IF memo helped me here, too, in pointing out that many countries chose a number based on where they were. They actually shot the arrow and then painted the target around it, and it did not create a huge problem in terms of commitment. Norway is an example that comes to mind, and I know a similar issue came up for Sweden as well.

Let me quickly finish with questions 5, 6, and 7. I've thought about this a lot more, and now I want to take back something I said at the first meeting in which I participated. Was it October? This goes to show that I don't think consistency is always necessary; it has benefits, but sometimes you do need to change your mind. I think it would be a very bad idea to take a survey of the participants on the objective or publish the participants' views in the minutes. My view has to do with the opportunism issue—doing so would make it much more likely that the inflation objective could change from year to year. That really does worry me because it would make a commitment to the inflation objective harder, and we would get the bad expectation dynamics, which could be problematic. So as I said, I think that we need to come to a consensus and make it clear that the objective will change only if there is a good scientific reason for doing so—that is, a change in our view, say, on measurement error, or something along those lines.

I really don't have much to say about the issue of a trial run. A trial run for producing a forecast narrative is a very good idea. I want to mention that having a forecast narrative might change the timing in terms of the minutes not just twice a year because I would advocate that we do this four times a year. Very likely it could be part of a monetary policy report, which is something that I would advocate. That report would have to be issued, and then the Congress

might want to set up testimony about it, and the likelihood is that they would want it to be before the minutes to get maximum attention for the hearings. We saw this occurrence in Sweden, for example, and I would suspect that it would be true here. In that context, I think that we would more likely have to do the discussion of the forecast among us a little quicker than the minutes, and we should just be aware of that. Thank you very much.

CHAIRMAN BERNANKE. Thank you.

MR. LACKER. Mr. Chairman?

CHAIRMAN BERNANKE. Yes. President Lacker.

MR. LACKER. I'd like to respectfully just ask a question.

CHAIRMAN BERNANKE. Sure.

MR. LACKER. To try to clarify your views, Governor Mishkin—if inflation were now 4 percent and we began conducting optimal policy, do you think the inflation rate under that optimal policy from now on—ten or twenty years from now—would be 4 percent?

MR. MISHKIN. No, definitely not. Again, you have to take into account the welfare considerations of the steady state, which are extremely important. My view is that any number between  $1\frac{1}{2}$  and  $2\frac{1}{2}$  is reasonable. I tend to be a little more reluctant about 1 because I do worry more about the lower-bound problem. I also worry a bit about the issue of potential deflationary effects on balance sheets, so my number tends to be a little higher than your number in the steady state. Numbers above 3 are not sustainable, and they would have very negative welfare consequences. I'm willing to choose 2 because, when I assess the literature and ask whether there is a difference in terms of the steady state and in terms of the welfare benefits from 2 percent versus  $1\frac{1}{2}$ , I just can't find it. Then the transition costs become an issue, as do the political considerations. That is why we come to somewhat different views. At 4 percent, I

would be advocating our bringing out the baseball bat; I would agree that we would have to raise rates a lot to convince the markets. In fact, this is what Volcker had to do, and he was a great Federal Reserve Chairman. Luckily, we're not in that situation right now.

MR. LACKER. So your view about the steady-state optimal inflation rate is what?

MR. MISHKIN. I'm indifferent between  $1\frac{1}{2}$  and 2. However, that doesn't mean that I have a zone of indifference about choosing a number. I think you have to pick a number. The experts in monetary economics might have a preference. But if after reading the literature you asked them whether they thought there was much difference between  $1\frac{1}{2}$  and 2, I would be extremely shocked if they said "yes."

CHAIRMAN BERNANKE. President Hoenig.

MR. HOENIG. Thank you, Mr. Chairman. I, too, want to thank the staff for really a great piece of work and a lot of coordination, which made this possible. First, I want to say at the outset that I do not want to move forward at this point in providing a numerical definition of the Committee's inflation objective. Second, regarding the enhanced use of a survey of economic projections, I support the release of increased information on the economic outlook along the lines suggested in the memo. To be a little more specific, I would like to assure everyone that I believe it is important to maintain a clear commitment to price stability. That's not what I've been disagreeing with at all.

However, in looking at the benefits and costs of adopting a numerical inflation objective, I believe the practical benefits are relatively small at this time and the costs are relatively larger than the benefits. Therefore, I suggest that we not do it. Regarding the benefits, there appears to be little difference in economic performance of inflation-targeting and non-inflation-targeting countries that we are looking at. Also, I have not seen convincing evidence that inflation

expectations are better anchored with an explicit numerical objective than with our current methods of communicating and acting toward an environment of stable prices or at least low inflation. In contrast, I think the costs at this time are a little higher. The political implications are important. I think about the law of unintended consequences or some of the longer-term reactions—and not just those of the Congress but also the public more generally. We have a commitment to a dual mandate. If we also have a commitment to a specific price target, I think that over time the arguments will mount—and I would understand them mounting—that we need a specific target for output. Then we're going to get ourselves trying to balance this out, and frankly I think it will be difficult. So that is why I'm very reluctant to have a numerical target put forward when we have a dual mandate that suggests otherwise in terms of balancing.

Now, if we do go forward, where do I come out in terms of the numerical objective? I would go with both a core PCE and a core CPI. Despite the general superiority of the PCE, and ignoring the difficulties in pricing its nonmarket components, the CPI has advantages in communicating to the public, which others have mentioned. Also, TIPS-derived measures of inflation expectations are based on the CPI. Now, I would prefer a point goal of 2 percent for the core CPI and 1½ percent for the core PCE, and I would specify a flexible time horizon. I agree that longer is better, and I won't put a number forward at this point.

Turning to the group questions, I would not support trying to achieve a consensus on the inflation objective. I do not think we can choose an inflation objective that binds future Committees. We don't have a statutory mandate, and people's opinions will change as personalities and experience change. Thus, we would need to revisit this issue on an annual basis, and I think that would be difficult. It seems to me that the consensus view is the de facto inflation objective. For this reason, given my earlier comment, I would prefer simply surveying

Committee members on their views about what constitutes price stability. Finally, if we go this route, I would recommend that we publish simply the range and the central tendency of the members' objectives.

As I have already said, I support the proposed trial run. I thought the summary of the economic projections provided in Vince's memo was good and useful, and I think we should go forward with that. The more difficult issue for me is how to convey the forecast uncertainty. While it is important to convey the uncertainty surrounding the forecast, I would not combine members' central tendency forecasts with the FRB/US confidence intervals. I think you're mixing things here, both in terms of what you're trying to talk about and then who is talking about it. Is one the Committee's, and is the other the staff's? Is one referring to one thing or to something else? I think you will create confusion over time, and so I would be reluctant to go down that path, Mr. Chairman. Thank you for the opportunity to comment.

CHAIRMAN BERNANKE. Thank you very much. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. I'd also like to lend my voice to the vote of thanks to the staff on what I thought was an excellent set of memos. I think the staff did an outstanding job in summarizing a lot of the nuances and the details that are involved.

Perhaps it comes as no surprise that I'm in favor of defining the Committee's price objective numerically and announcing that goal to the public. I believe that specifying our long-run price stability objective numerically would focus our policy discussions and help anchor expectations. By reducing the public's uncertainty about our goal, long-run expectations would become less responsive to changes in short-run inflation. This should help enhance monetary policy's flexibility to respond to economic shocks as we may deem appropriate. Thus, rather than being unduly constraining, I believe it would actually add to our flexibility. In this way, it's

consistent with the other goals of monetary policy and increases monetary policy effectiveness. It would also increase social welfare to the extent that it helps us avoid time-inconsistent policy, since we know welfare under commitment generally exceeds welfare under discretion when agents are forward looking. Thus, I believe a numerical goal would be a long-run anchor to our monetary policy and help coordinate our own discussions of what appropriate policy might be.

Now, as Vince laid out the questions, we have to make a number of decisions in making that numerical goal operational. I feel more strongly about some aspects of the design than about others, and many of the choices are interrelated. For example, a long horizon should mean a tighter control range. A long horizon makes the choice between headline and core less important. A long horizon makes the choice of core in fact less compelling. I think that any proposals will have their pros and cons. As I said, I'm not necessarily wedded to all of the particulars, but I will make a proposal. But let me emphatically stress that what is more important than the specifics is that we agree on a numerical objective and a horizon for its achievement.

Regarding which price index, I prefer the headline CPI even though it's likely to be harder to control and forecast in the short run than the core. Many foreign central banks with experience have tended to move toward the headline CPI number, indicating that it can in fact work. The headline CPI is a measure that's more understood by the public, so the communication arguments are important here. Unlike the PCE, as has been mentioned a couple of times, or the GDP deflator, the CPI is not revised, which helps us in assessing our accountability in reaching our goal. I also prefer headline to core for our goal because I don't want to convey the idea that we are insensitive to the wider array of prices that influence behavior—particularly because, as Governor Mishkin indicated, the stochastic processes or

properties of individual elements of the CPI may change over time. If we started defining a subset of prices, we could find ourselves in trouble. I think we would also have the opportunity to use the core in our communications when explaining why we might or might not react with policy to a temporary blip in headline inflation. I view focusing on headline and using the core for other purposes as a means of enhancing our communication efforts. Again, this practice is similar to the practices of other central banks that announce their inflation goals. Of course, I think it's going to be terribly important for us to consider how we will respond to and communicate about the inevitable misses from our target.

Regarding a point goal or range, I strongly favor announcing a point goal. In reality, there is a range around this point that reflects the precision with which we policymakers think we can control inflation, and this control range will differ depending on the inflation measure used and the time horizon selected. However, I'm reluctant to announce a range as part of our inflation goal because I think it would be very difficult to ensure that the public would not interpret it as a range over which we are indifferent. So for the headline CPI, I would specify and announce a target of 1 percent. That's consistent with our goal of price stability and the estimated measurement bias of the CPI of being something slightly less than 1 percent. I picked 1 percent because I take seriously our mandate for price stability. Since I do not believe that there is any long-run tradeoff between inflation and employment, we have no reason not to seek and meet that goal over a reasonable period. I recognize that some may feel that a 1 percent target is too low as the risk of deflation or zero bound restrictions on nominal interest rates might call for a greater cushion. I understand those arguments, and they are certainly plausible. But for various reasons, some articulated by people around this table, I'm less concerned about our

ability or the economy's ability to deal with those issues, both of deflation and zero bounds. But I accept that some people may have more concern about it than I do.

Regarding time horizons, I feel strongly that we should specify a time horizon by which we think we can achieve our target so that we can be held accountable for meeting or missing a goal. Since I favor using the headline CPI, which is a little more difficult to control, more volatile, than a core measure, I think a two-year horizon would be appropriate and, indeed, achievable given the typical shocks that hit the economy and the volatility of the CPI. For example, for the past ten years, the standard deviation of the monthly twenty-four-month CPI headline inflation rate has been about 0.5 percent. I could also make the case that initially we may want to consider a slightly longer horizon, especially if we choose a number like 1 percent and given that we are currently well above 2 percent. Specifying a longer horizon at first may provide markets with more opportunity to adjust to the new regime and mitigate some of the transition costs. As we converge to our target, we might be able to shorten the horizon. I much prefer that idea to adjusting the goal. I think the goal ought to be the goal, and we use the horizon to give us some flexibility, depending not only on initial conditions but also perhaps in future discussions on the nature of the shocks that may cause us to do that. I don't like the idea of not picking an optimal target simply because we're not there yet. I think that's not the right strategy.

There remains the issue of how we treat deviations from our goal—that is, whether we let bygones be bygones or whether, for example, when inflation has been above our target for a year, we must get it below our target for a year. Our chosen inflation goal will imply a price-level path with that goal. We need to decide whether or not we will permit permanent deviations from that price-level path. Deviations from the price-level path occur when inflation deviates



from our goal. If inflation increases above our goal for a time, then we would need to bring inflation below our goal to return to the price-level path that was consistent with our initially announced inflation goal. Similarly, if inflation moved below our goal, we would need to have a period of above-target inflation to return to the price path. Alternatively, the Committee might decide to accept permanent deviations from the price path and choose to implement policy only to return to the inflation level. I would prefer the former as a price-level path because it prevents base drift, and I suspect that we will, on average, more likely be above the target than below, and the ensuing gradual erosion of purchasing power will be higher than we might have anticipated. In either case, I think it's important, regardless of which way we decide, that we make that choice consciously and weigh the costs and benefits of it and decide which regime we want to be in.

I do think it's critical that the FOMC members reach a consensus, or at least a decision, on the goals and the definition of price stability and essentially not dispute those in public. I don't think members need to agree on the model of the economy or the channel through which monetary policy affects the economy. Indeed, given the state of economic science, the differences in the models and the channels can actually aid in policy formation. However, the point of announcing a numerical definition of price stability is to anchor expectations and improve our accountability. Without agreement on that definition, the benefits of such an announcement would be critically diminished. The Committee may want to periodically review the definition of particulars such as the horizon as it gains experience operating under this structure, but I think it's very important that we reach a consensus on our announced goal. While I have offered my own choices on the particulars, I believe that they really are of secondary importance to our public commitment to an objective.

As far as the trial run is concerned, I strongly favor having a trial run for producing a forecast narrative in May, and I agree with the discussion last time in that I like the idea of doing it four times a year. I also like the idea of incorporating a forecast narrative into the minutes, which gives participants the opportunity to comment on the draft narrative. This is not the only way to proceed, but I think that it is a good first step and that refinements can follow. As I mentioned earlier, our discussion this morning highlighted the real need for us to have a way of communicating our policy views more effectively and outside the narrow confines of the policy statements as they are currently constructed.

Regarding the narrative itself, I have two comments. First, I suggest adding the assumed policy path as a variable in the forecast. Participants are asked to assume appropriate monetary policy, and conditioning on policy paths that can differ across participants embeds differences in participants' preferences over outcomes as well as differences across their models. If we are thinking about the forecast as a communication device that enhances the transparency of our policymaking process, then we want to convey something about the reaction function that is likely to arise out of our Committee's decisionmaking process. Aggregated information, such as the range and central tendency of the fed funds rate in the fourth quarter of each of the three years of the forecast, as we do with the unemployment rate, might be useful without holding the Committee to any particular path. I think the idea of conveying information regarding the uncertainty of the forecast is also important so that the public does not place too much emphasis on point forecasts or narrow ranges. Moreover, uncertainty is clearly larger than the range of the point forecasts of the Committee, and yet I'm not sure, as has been mentioned already, that using the forecast standard errors out of the FRB/US model is the best solution since they are not consistent with the forecast that was generated by the Committee. We might, for example, even

consider asking Committee members when they submit their forecasts to submit their own range of uncertainty at the four-quarter horizons and then use those estimates to create something like a fan chart. In any case, I'm looking forward to a trial run in May. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Stern.

MR. STERN. Thank you, Mr. Chairman. Let me start by way of background simply by saying that, while there may be some good theoretical arguments for adopting a numerical inflation objective, I actually view this consideration as very practical. What we're talking about here are ways to improve external and internal communication and accountability. To the extent that communication is improved, it should certainly aid decisionmaking within the Committee, decisionmaking within the private sector, communication with the Congress and others about our objectives and tactics, and so forth. So I view those as very practical issues, not theories.

As far as the specific questions, yes, I do believe that the Committee's price objective should be defined numerically. As far as the preferred price index, I'm really fairly indifferent about that. I think perhaps what's most important is that we pick one and stick with it. The core PCE has the value at the moment of being the one that we've been focusing on. It's in the numbers that we submit to the Congress, but I don't think that is necessarily determinative. If we wanted to go to the core CPI or the overall CPI, actually those alternatives would be acceptable to me. That consideration is a second or third order one, at least from my perspective.

As far as the question about a point goal or a range, I have a proposal, though it's not an original one. I propose that we say that our target is something less than but close to 2 percent, the ECB target. Let me try to explain why I think that's a good idea. I'd start with Governor Mishkin's point that I don't believe that there is a lot to be gained in the steady state whether we're at a little below 2 percent or at 1½ percent or even lower. I think a little less than 2 percent

is fully consistent with an objective of low, stable inflation, which is what we're really talking about here. Moreover, the fact that it doesn't have a bottom to the range means that, if we get lucky or if there's an opportunity to bring inflation down below 2 percent, we could take advantage of that, and that would be all to the good. I have some concerns with a range or a target that focuses on  $1\frac{1}{2}$  or something even lower because I question how credible it is, based in part on our experience in 2003, when there may have been some anxiety externally but there was a lot of anxiety internally about the course of inflation, the zero bound, how policy was going to be conducted, and how effective it was going to be. Those memories are pretty clear in my mind, and I don't believe we ought to select a range or a target with which we are not comfortable when push comes to shove, as it may at some point.

As far as the time horizon, I would say normally something like two to three years. "Normally" is an important word because I can imagine circumstances in which that time frame is not appropriate. But there's a tradeoff here. If the time frame is too short, we're probably going to confront more interest rate volatility than we want as we try to achieve the inflation objective. If it's too long, it's meaningless. So in my judgment, you have to come out somewhere in the middle, and my best judgment about that at the moment at least is two to three years, but I guess I would be willing to be persuaded otherwise.

As far as whether the Committee participants should jointly decide on the goal, I think the answer to that is "yes." I'm not sure about exactly the mechanism for achieving that; we'd probably have to reaffirm the goal every year as the composition of the Committee changed, but I think that's far preferable to the other alternatives I can think of. If that is not possible and we go to something like the proposal in question number 6—surveying the Committee members—my reaction is that it is probably another appropriate place for a trial run. We can see what we

get back and what we make of it at the end of the day. How should the public be informed?

Well, if we do adopt a numerical objective, at some point we're going to have to tell the public because that's the honest way to go. Even if we didn't want to, we'd be talking about it here, and sooner or later it would become public. I don't have any problem with that.

Just a word or two about the forecasting exercise and the possibility of a trial run—I am all in favor of that. I think we'll probably learn some things from it, and that's the intent. Having said that, I guess the one bit of caution that I would offer as we go down this path is that I think it's important to illustrate the degree of uncertainty associated with the forecast and so forth. At the same time, we want to make sure that we don't raise uncertainty about our ultimate policy objectives—about our commitment to price stability and its relation to the other half of the dual mandate. So we have to make sure as we illustrate uncertainty that we separate uncertainty about the outlook from uncertainty about our objectives. Thank you.

CHAIRMAN BERNANKE. Thank you. President Pianalto.

MS. PIANALTO. Thank you, Mr. Chairman. I also want to thank the staff for the memos that were sent out before the meeting. They were very helpful in preparing for this meeting.

I am in favor of defining our price stability objective numerically. As others have noted, being more explicit about our price objective will enhance both external and internal policy discussions, improve our transparency, and help coordinate the public's expectations about inflation. Although my expectations about the gains that we can expect from adopting a numerical inflation objective are modest for the short term, I think that over the long term the benefits will prove to be more significant.

My preferred price index is the headline CPI. I prefer the CPI mainly because it is familiar and better understood by the public than other inflation measures. In addition, the fact that the tax code, Social Security benefits, TIPS, and many other contracts are indexed to the CPI means that people probably focus more on it than alternative measures. Also, research done by my staff suggests that both near-term and longer-term household inflation expectations are more strongly correlated with the behavior of the CPI and its core measures than with the PCE alternatives. I understand that a lot of people prefer the PCE because of the fairly substantial role of owners' equivalent rent in the CPI. However, it's worth noting that the small weight placed on the OER in the PCE is a result of the larger weights placed on medical services and nonmarket activities, each of which comes with its own problems. Because a numerical objective could provide predictability and confidence in the purchasing power of money, I favor expressing our objective in terms of an overall inflation measure rather than the core measure. Though core measures are certainly important for helping us to disentangle the trend in headline inflation from temporary influences, I think it is the overall inflation rate that is important in a welfare sense. For that reason, it makes sense to me to express our objectives in terms of the overall measure.

If the Committee were to choose the headline CPI, I would favor a midpoint target of 2 percent and an acceptable range around the midpoint of plus or minus 1 percentage point. If the majority of the Committee prefers the PCE, I would choose a midpoint of  $1\frac{3}{4}$  percent. A few years ago I gave a speech on this issue and noted that I would choose  $1\frac{1}{2}$  percent, but because of the revisions that were received last year, I moved that up to  $1\frac{3}{4}$  percent. Whichever measure we might choose, I would like to see the objective expressed in terms of an average over the medium term, say three to five years. To me, the real discipline of an objective comes when it is

measurable but also realistic. So stating our objective in terms of an average achieved over a few years provides a reasonable way for the public to explicitly gauge our performance. I should be clear, however, that I don't think that any deviation from this performance objective should automatically trigger action by the Committee. However, it is quite reasonable and useful for us to provide an explanation or a plan of action, depending on the circumstances, if we look over a recent three-year to five-year period and find that we missed our stated inflation goal or if we look forward and see that we're likely to miss that goal.

To the question of how often we set an objective, I agree with President Lacker, Governor Mishkin, and a few others that we should just set it and forget it. [Laughter] The staff may tell us that there are some governance issues to address, and it might be desirable for voting members to reconfirm the objective at the start of each year. But the presumption should be that, once it's chosen, the objective should be reframed only if there is a compelling and easily explained reason to do so.

In regard to the questions pertaining to the group, my first choice would be to generate a consensus objective and communicate the desired near-term range to the public. If we can't agree on the desirability of this option, I do favor sharing individual preferences as part of our discussion in the Committee, and I would have no objections to having my preferred numerical objective made public in the meeting minutes. Obviously, this conversation is going to be public five years from now through the transcript anyway. I do believe that sharing our own thinking about inflation objectives among ourselves has value. So I wouldn't considerate it a deal-breaker if others feel that we should keep this an internal discussion only. However, if we do have a conversation about it, as others have pointed out, I presume that it is going to be reflected in the minutes, and then people are going to wonder why we're not sharing the information publicly.

So it may be difficult to keep the details under wraps once we start making it public that we are having these conversations.

Regarding the proposal for the forecast narrative trial run, I think it is a good step for the Committee to take. I would also like to commend Vincent and his staff for providing a useful model. I like what the staff has proposed, including the summary information provided in the two tables and in chart 1. I only have two changes to suggest. Others have already commented on one of them, and that is the issue around uncertainty. I do think it's important for us to convey that there is some uncertainty around our forecast, but I'm not sure that using the FRB/US-generated confidence intervals is the right way to go. But we can talk about that detail at some other point. The other issue is the reference to potential output. It may be a good idea for Committee members to comment on individual estimates of potential growth, but it may not be a good idea to use the staff reference to potential growth without explicit guidance from the Committee. But both of these are details. I support moving forward with the trial run and am looking forward to seeing the outcome of that. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Yellen.

MS. YELLEN. Thank you, Mr. Chairman. I, too, want to thank the staff. They've done a terrific job in helping us with this. I'm going to try to address the questions in Vincent's memo with a little variation in order. On the first question, I do believe that the FOMC should have a numerical inflation objective. We've discussed this before. Briefly, I think it would improve internal policy discussions. Importantly, I think it would allow for clearer communication with the public, and the benefit of that is to help anchor inflation expectations and enhance the scope for monetary policy to stabilize output. Additional transparency would also foster greater accountability, which I think is important. All in all, I don't think these gains would be



enormous. But they do come out in the plus column when I weigh them against the potential costs. A cost I worry about and would not be prepared to pay is de-emphasis on the other part of our dual mandate—maximum sustainable employment. I worry that such de-emphasis could occur in the minds of the public and even affect our own decisions. So I think a numerical inflation goal has to be enunciated in the context of clear and convincing statements about our commitment to both objectives.

Like Governor Mishkin, I thought it important to proceed out of order. I, too, would like to turn to question 4 on the time frame because I think it's extremely important to address that first. I consider it critical that we define a numerical inflation objective as a long-run goal, not at a fixed time horizon. I would find it very hard to support a numerical objective without a long-run horizon to provide a lot of flexibility to respond to output and employment considerations. I believe that a fixed time horizon is inconsistent with the dual mandate. The long-run nature of the inflation objective would have to be clearly explained to the public in the context of the dual mandate, and I think we would need to stress that we would always take the implications for near-term economic and financial stability into account when deciding how to move toward our inflation objective. I've said this on several previous occasions. I think our Chairman proposed a brilliant formulation of this in his remarks in St. Louis in 2003, and I've been long attracted to the language and views that he put forward in that speech on how to express this.

Now let me turn to questions of which index and what number. On these issues, I am flexible. Over the long run, the various price measures appear fairly closely linked. On methodological grounds, of course, I'm enamored with things like the market-based core PCE, and the chain CPI certainly has its attractions. [Laughter] A couple of years ago, after our first discussion of this in 2005, I decided to enunciate in my own speeches a so-called comfort zone,

and I talked about it in terms of the PCE. But partly because of that experiment, I, too, have come to appreciate the value of public familiarity. In my contact with the public when I start to talk about the inflation rate and the price index for personal consumption expenditures, excluding food and energy, I still see quite a few blank stares. [Laughter] I don't think it's just me. The FOMC has been providing PCE price inflation projections in our Monetary Policy Report since February 2000. Many of us have been talking about our goals in terms of the PCE price index, but the CPI is still entrenched in the minds of the public as the measure of inflation. That's probably why central banks around the globe define their inflation objectives in terms of the CPI. Like others, I've also found that the public is quite skeptical, probably rightly so, of measures that exclude food and energy. Those are important out-of-pocket expenses. I agree with the argument that, if we have a long-run goal, there is an advantage to using a total rather than a core index. Of course, we can refer to the behavior of the core index in explaining what we see going forward in our own internal deliberations. So at this point, I think I've changed my mind, and I would agree that total CPI is probably now my preferred alternative. But, again, I don't feel strongly, and I could go along with core PCE.

With regard to a point value for the inflation goal or a range, I found very interesting in the IF paper that many central banks have both. The point serves as a focal point, and I think that there are good reasons, particularly as Governor Mishkin emphasized, for having a focal point. The range seems useful as a communication device to remind the public that inflation control is not perfect and that inflation is going to vary. I'm comfortable with that approach. As for a specific number, again, I think economic theory and empirical evidence—I agree with Governor Mishkin—suggest that the welfare function is pretty flat over a range of possible values. I don't think we should aim at zero properly measured because some cushion against the

zero bound seems prudent. I also worry about an adverse interaction with downward nominal wage rigidity. That hasn't been important in recent years because productivity growth has been high. But if productivity growth were to decline, I believe that could become pertinent. However, there is also nothing to be gained by setting a goal higher than where inflation expectations are currently anchored. I remain comfortable with the goal that I enunciated some time ago—a long-run inflation objective of 1½ percent for the core PCE inflation rate. I agree with Governor Mishkin that we have to take transition costs into account. It's a question of weighing the gains from being at a better number against the transition costs, and I thought about that tradeoff when I decided on 1½. I know we're not there, and I guess I decided that the tradeoff was worth making. I don't in any way want to say that the case was compelling, but I could certainly continue to live with that number. To cast it in terms of the overall CPI, I think a comparable number, given the average measurement bias, would be about 2 percent. The very first FOMC discussion of this topic that I participated in, which was in January 1996, came out with a numerical inflation objective of exactly 2 percent, and I think we were referring to the CPI at that time. As for my preferred target range for headline CPI, which is more volatile, I translate the 1 to 2 percent for core PCE that I've been talking about into a 1 to 3 percent range. Again, I'd emphasize the 2 percent goal for the CPI and stress that the FOMC would not be indifferent among values inside the range.

Let me now turn to questions about the formulation of an inflation goal as a group decision and the communication of that goal. I've long thought the best way to make this decision is to arrive at a consensus or general agreement among the full set of FOMC participants. That is how we have traditionally decided on communication issues since we do all have to live with the consequences. I favor that approach over a survey. I might support a

survey, but I really think this is a preferable approach by far. It would produce much less muddled communication. Statement of a consensus view is probably preferable to a formal vote, which in some sense might up the ante vis-à-vis the Congress. It might be appropriate for the Committee to revisit the setting of this objective from time to time. Presumably, it would not and should not change very often. There could be reasons at some point that it might change. I hope it wouldn't change very often, but perhaps it should be reaffirmed and reconsidered annually. If we do reach a consensus on the numerical objective, I think it should be expressed in the minutes.

Turning to the forecast narrative, I very strongly support the proposed experiment. I thought the staff summary of the January economic projections showed that a useful minutes-style narrative could be produced, and I think that process is going to work even more efficiently if we provide individual narratives of the type that are suggested for the trial run. On details, I agree with the point that President Hoenig and, I believe, President Pianalto made about the confidence intervals. I think we should examine the track records for a broader range of forecasts, our own past projections, those of the CBO, and others and experiment with that. I would also like to give some support to President Plosser's suggestion that, at least in the experiment, we might want to include the federal funds rate or our own individual projections for the federal funds rate.

CHAIRMAN BERNANKE. Thank you. President Minehan.

MS. MINEHAN. Thank you, Mr. Chairman. I suppose it comes as no surprise to anybody who has been at the table here listening to these discussions over the past—it seems like forever but I guess it has been only a couple of years [laughter]—that I'm not in favor of a numerical price objective. However, it's funny—as President Yellen was going through her thoughts that lead her

to believe that the benefits outweigh the costs, I find myself in agreement with a lot of what she said. I just come out for the side on which the costs outweigh the benefits.

I found the material disseminated for this meeting very useful. I would have liked a bit more time to look at some of it, but it was very useful in my own thinking, particularly Vince's encouragement, implicit or explicit, to think about one's personal definition of price stability. So I did that a bit—I thought about that definition as opposed to just whether or not I was in favor of a numerical target. I guess it comes as no surprise that my definition of price stability tends to be more qualitative than quantitative. It's a rate of inflation, not a price level, that's so low and stable that it doesn't interfere with decisionmaking as businesses invest and consumers save and plan for the future. Achieving a rate of inflation that meets that sort of definition is the best we can do as a central bank over the long run to achieve both of our objectives—that is, price stability and maximum sustainable growth—and (I would take Governor Mishkin's thinking on this) in an environment of financial stability. I know that this definition sounds simplistic; it certainly isn't original. But I think it effectively conveys the challenges we face as we strive to meet both of our goals in the context of changing economic realities.

I do recognize, however, that even in the context of a qualitative definition of price stability, some quantification is useful as one thinks about current progress. In that regard, all other things being equal, I would worry about rates of inflation above 3 percent. Similarly, rates below 1 percent seem to carry with them the potential for instability and certainly a lot of concern around this table, as we saw in 2003 and as President Stern mentioned. Based on the research I've seen, I think it is hard to distinguish the benefits of  $2\frac{1}{2}$  versus  $2\frac{1}{4}$  or 2 or  $1\frac{1}{2}$  versus  $2\frac{1}{2}$ . I think our experience over the years that I've been on the Committee suggests that the 1-to-3 range is a pretty good definition, at least for the time being, of what it means to have very stable prices. I have some doubts about

whether there's any single optimum inflation rate. I think things change, and if we chose a particular number as the optimum inflation rate, it might cause us to fail to appreciate an evolution in the way the economy works and to exercise our judgment.

I think judgment is very important in policy formation. It's important that we exercise judgment about the right policy in a timely way, and I'm afraid that stating a particular number as an optimum inflation rate would end up making us more numbers-determined and less judgment-determined, and I think that would be a step backward in terms of policy formation. So although my own notion of what constitutes stable prices is useful to me as a policymaker, I think it's important that it not be seen as being determinant to policy action. One reason that being explicit about price stability is thought to be useful is that it can shape market expectations. But price stability isn't our only goal. Maximum sustainable growth is a goal as well. In the short run, there can be tradeoffs between the two. Markets need to know that short-run policy will always be a balancing act. We can tell them that, but the action of setting a numerical inflation target will speak louder than words. It will say we value one goal over the other. As the material prepared for this meeting points out very well, the benefits of a numerical target need to be weighed against the potential for harm. Communication and transparency may seem to be improved, but confusion could be created as well, and that confusion could extend from the public to the Congress, which would be difficult from time to time. Now, I know that we can meet all these concerns. I know that we have a wide array of ways in which we can communicate. I know given all the many, many words that have been written on this subject that there are many ways to make clear all of the tradeoffs that go into choosing a particular objective. But I wonder, along with President Fisher, why we want to spend our time and our political capital right now or anytime in the near future to

ensure that we're conveying all the subtleties of an inflation target. I don't see that spending time and political capital doing it brings us enough advantage.

Neither the market nor the public needs to be told a number to believe that we seek low and stable rates of inflation. We have the credibility that comes from a long period of success on this front. Markets form expectations based on what we've accomplished not just on what we say we will do. Obviously, if we didn't have some success here or if we were at the start of an inflation control process, like Brazil or Mexico perhaps at points of time in the past, we could benefit from establishing a target. Even then we'd have to have the right follow-up policy actions and results or the target wouldn't be at all credible. Our track record as a central bank proves our commitment to low and stable rates of inflation and shows that we're accountable for our actions. That commitment and accountability work to shape expectations and, combined with sound policy, would keep inflation low and stable in the future. In the end, that will shape the best environment for saving, investing, and long-term growth.

Now, it's clear, and I have known this all along—only a few of us think along the same lines, and maybe nobody thinks along the same lines that I do. So let me focus on some of the answers from my perspective to the questions that are being posed. As an individual, do I believe that the Committee's price objectives should be defined numerically? No. I think the benefits of doing that could be outweighed by the potential for harm. If we have to do it, and that may happen, what is my preferred price index? Well, mine is not unlike that of Janet and some others: I come down on the side of headline CPI; I think it encompasses the range of costs that are important to people. Food is important to people. Energy is important to people. Conveying our concerns about inflation really needs to be done in terms of a headline number, and I would pick the headline CPI. I'm also in favor of a fairly long and maybe flexible time horizon. The two of those work together.

If you pick a headline number over a longish period, the headline number isn't as volatile as it is in a short period. It is something on which we can focus over a longish period of time as a goal that's easily understood, easily communicated, and reached over that longish period.

Do I have a point goal or a range? As I mentioned earlier, I'm more or less comfortable right now with an inflation goal in a range of 1 to 3 percent. In terms of where in that range we should be at any time, I think it's hard to make the call as to whether 1½ is better than 2 or 2½. I do set some store by stability over time. Like most of the rest of you, I'd be worried if we're in that range but we thought we were going to get out of it rapidly at some point. As for the time horizon, I said a fairly longish period of time. I would go at least three years, maybe five years, or maybe an indefinite time horizon because I think it's important, as Janet discussed, that we recognize both our goals. If you pick too short or too fixed a time horizon, you do imply that at some point you're going to sacrifice the growth goal for the inflation goal. Now, I realize that, if you set a goal, you do try to manage tradeoffs that way. But I think that you'll be shaping expectations that, when the three-year period or the five-year period ends, you'll be taking actions. Maybe you don't want those expectations to be out in the market.

As a group, should Committee participants arrive at a consensus view of its goal? If we arrive at a view, I don't think a consensus view is necessary. It might undermine the diversity of viewpoint that I think is the strength of the Committee. If we had a consensus view that we arrived at either formally or informally, it would have to be communicated to the public. With regard to the next question—participants being surveyed regarding their preferred level of a numerical objective—I think that is sort of what we're doing now. It's probably helpful for internal communication that I know where everybody else stands and you know where I stand—it's beneficial to the information flow around the Committee. So if a survey of participants is done in a



way that is useful for developing policy and for communicating among ourselves, I think it would be helpful. If it's done in a way that tries to force consensus, I'm not so sure it would be as useful. All of this discussion will be public in the transcript. The fact that we're having a discussion about how each of us feels about price stability will be made public. I'm comfortable with its being public in the transcript. Whatever summary is done in the minutes is probably good enough unless we should come to the decision that we are going to have a numerical price objective, in which case it has to be public and would be in the minutes and might even be subject to some further communication.

I think the trial run will be interesting. I'm all in favor of providing the information for a trial run in May. I have a hard time seeing how you do a forecast narrative, particularly if it has a minutes-style format like the draft that Vince sent us, in two weeks and then the minutes in three weeks. I think the trial run is going to be useful in showing us how that feels. It may suggest that we just do minutes in two weeks and incorporate the narrative into the minutes. But we'll see how the trial run goes.

I also want to be counted in the camp of people who worry about the range of uncertainty, the fan charts. I think they're very hard to describe. Just looking at, for example, our confidence intervals around GDP—our central tendency is slightly below 3 percent in most of '08, but our 90 percent confidence interval is somewhere between zero and 6. I don't know what the public makes of that, and I don't know if we further anything about our own credibility in explicitly identifying that range of uncertainty over that short period. I have no doubt that the math is all beautiful and correct. I just think that, as a communication device, the chart really is deficient. We need to think about how to convey uncertainty, which we certainly have, in a way that is helpful and not hurtful.

CHAIRMAN BERNANKE. Thank you. President Lockhart.

MR. LOCKHART. Having been a president for three weeks, I hope I can still get away with some tentative or preliminary remarks on this subject. There really are two questions. The first question is whether or not to go forward, and the second is, if we do go forward, how to implement it. Regarding the first question, having only today been privy to these discussions, I'm not going to make up my mind quite yet. But I would like to make a few comments on the "how" side of the question in the event that we do go forward.

First, I favor a quantitative price objective. As to whether it is an explicit objective and whether it has a point goal or a range, I can see pros and cons to both. The point goal can help in influencing long-term inflation expectations, and an indifference range can be more compatible with the dual mandate. On balance, I favor a point goal with comfortable bands. Regarding exact numbers, I've not settled on a specific number, but I would think that something in the range of 1½ to 2 percent, depending upon the index that's chosen, is a reasonable guide to policy and compatible with the dual mandate. On my preferred price index, I've been influenced by the discussion today. My starting point was core PCE based upon consistency with the past. I'm more convinced now that an overall measure makes sense because we should be consistent with the pocketbook experience of the public, since we're communicating to the broad public. So I would favor one of the overall measures. I'd like to stress that I am very much in favor of an approach that minimizes the political risk of conflict with the Congress and dilution of the principle of central bank independence. For this reason I think that an unspecified medium-term time horizon would work best, especially at the initial stage.

I believe that flexibility going into this policy is sensible and important. I've thought a bit about how we really ground this decision and ground the specific choices that we make. In simplistic terms, I would say it should "work"—meaning that the policy should enable the

achievement of actual outcomes. Given the difficulty and the complexity that I'm learning about and the many domestic and international uncertainties, I think we should be flexible enough to have high confidence that we'll achieve the stated objectives. Foreign central banks have changed the details of implementation of inflation targeting—such changes have apparently not affected their credibility—and I believe that the FOMC should be able to do the same thing. Finally, I believe that, for inflation targeting to be effective, its goals should be communicated as a substantial consensus. I'm making some distinction between the reflection of an actual consensus versus the communication of some degree of unity on the part of the Committee. Mr. Chairman, let me just end there. Thank you.

CHAIRMAN BERNANKE. Thank you very much. Governor Kohn.

MR. KOHN. Thank you, Mr. Chairman. I think that, yes, we ought to define a Committee price objective numerically, but it's a close call and will depend on how the objective is implemented. The benefits will be small; but if we do it right, the costs will be even smaller. The benefits include slightly better anchored inflation expectations. The evidence across countries is that the difference between inflation-targeting countries and non-inflation-targeting countries on this is very small: clearer discussions; protection against cumulating changes in inflation either up or down—under one of your successors, Mr. Chairman. [Laughter] I do think there's confusion out there because many FOMC participants have enunciated 1 to 2 percent comfort zones. People assume that that's the Committee's target. It's not mine. The Committee has never voted on it. I think we need to clarify that fact, and frankly, I hope we don't come out quite where 1 to 2 percent core PCE comfort zones are.

The risk, as President Yellen noted, is that the emphasis on inflation will detract from the emphasis on output stabilization. I think output stabilization has value in and of itself. It is very

hard to plan personal spending when there are business cycles. Output stabilization is not only a means to inflation stabilization. We ought to pay attention to it, and I think there's a risk that we could pay too much attention to inflation and not enough to output. Governor Mishkin actually crystallized my concerns when he said that he hoped that discussions in this Committee would focus on the inflation path. That's exactly what I'm worried about, Rick. [Laughter] The Committee should focus on the inflation path, but not only the inflation path.

MR. MISHKIN. I agree with you on this. You want to talk about the implications of the one for the other.

MR. KOHN. I would have an inflation objective, not a price-level objective. A price-level objective has a lot of attractiveness in terms of planning and pinning things down, but if we want to proceed, we ought to proceed in baby steps, and I would start with an inflation objective. It wouldn't be an average over time. We would always be aiming at our objective going forward without making up for misses one way or another.

Like President Yellen and Governor Mishkin, I continued my answers to the questions after number 1 with number 4 because that answer influenced the other ones. So I would, as you can imagine, be very flexible and not have a fixed time frame. We're talking about long-term effectiveness. It depends on the size and the nature of the shocks hitting the economy, how far you are from your objective, how long you want to take to get back, the implications for the output gap of returning through one path or another, and other particular circumstances. In addition, the Committee over the past fifteen to twenty years has worked very well with what we've called "buying insurance" or risk-management type of techniques. Those techniques imply that you aim away from the central tendency from time to time because you see that the tails of the distributions are fatter on one side or another. The cost of missing one way or another is greater. Aiming away

from the goal every once in a while, at least for a short time, promotes stabilization. That's another reason to be flexible and not have a fixed period. Among the circumstances in which that might arise, as Governor Mishkin noted, are times when there's a risk of financial instability, like the fall of 1998.

On the index, I agree with President Minehan that there's no single index and we ought to be looking at everything to determine what the underlying inflation process is and where it's going. In terms of our communication, I'm drawn to the total CPI. It's most familiar to the public, and therefore, it would perhaps help tie down expectations. There's no reason for a long-run target not to be comprehensive in a way that's meaningful for long-run planning. The CPI is not revised, and it's fully transparent in its construction. We have problems with the nonmarket prices in the PCE. They get revised. We don't totally understand and can't replicate how they're put together in the PCE, and that bothers me. The revisions, too, bother me. The staff made a strong argument that they shouldn't bother me because it's only the implications going forward. But President Fisher crystallized a risk in a speech he made by saying that, if we had only known in 2003 what the true inflation rate was, we would have acted differently. I'm not sure that's true. We were taking account of a lot of things, but I can understand how somebody who wasn't in the System would think that it was true because of the focus on that particular inflation rate. I'd rather focus on something that doesn't get revised so that people can't come back and say, "Well, if only you had known this, you would have done that." A lot of second-guessing is going on, and I'd rather take that revision of the price index off the table as one reason for that.

I would do a point with a range around it, with emphasis on the point. Since there's no fixed horizon, we should be able to define our ultimate goal. By the way, I would use core inflation and the other things as intermediate targets. I wouldn't give up looking at core and everything else, but I

would define the goal as total inflation. So then I would have a point. That point should have a gravitational pull. Generally we ought to be moving toward the point, though exceptions might arise if there were financial distress or reasons for moving away. Our forecast ought to be pulling us toward the center of the range. I would put a range around that point to communicate that shocks happen. We can't be expected to hit the point all the time. Ordinarily we'd lie within the range and be tending toward the middle. Another thing that a range would do is give a sense of a nonlinear reaction function. If things got outside the range, then we might react even more strongly than we would inside the range. That would be a useful signal to send as well. So I would say plus or minus 1 percent, perhaps.

I found the question of the level very difficult. I do worry about the zero bound. The anxiety is not entirely in the public. It was inside this room in 2003; it was inside me, anyhow, as I was voting on policy. In theory there were ways of dealing with this, but in practice it wasn't clear that they would work, and I didn't want to test them. So I think the zero bound is an issue. That concern led me to a CPI of at least 2 percent, which I think takes care of most of the zero bound problems. But we have inflation expectations anchored at  $2\frac{1}{2}$  now. There is very little gain from going from  $2\frac{1}{2}$  to 2, I think. I don't want to count on a credibility bonus in getting there. I don't think there's any evidence. If we could get that bonus, it would be nice, but I don't want to count on it. So I think I'd go opportunistically maybe from  $2\frac{1}{2}$  to 2. The transition costs of going from  $2\frac{1}{2}$  to 2 are real. They're palpable. They concern unemployment. The long-run gains from going from  $2\frac{1}{2}$  to 2 are very theoretical—nominal illusions, tax system trapezoids in Marty Feldstein's tax system, these types of things. [Laughter] I think they are obscure and theoretical. So, if I had to define something, I'd start with  $2\frac{1}{2}$  now and maybe tell the public that we could move down to 2 later. That's more consistent.

Where would we go on the decisionmaking? I think we should try to reach a consensus. We ought to have a good discussion. Everybody sitting around the table ought to come together, partly because this will last more than a year, and so people who aren't voting are effectively becoming bound even if they're not literally bound. If we can't do that, we ought to vote. But I hope we can reach a consensus. As for how the public should be informed, obviously it would be in the minutes, but also in the Monetary Policy Report and testimonies. I don't think we need to decide that now, but I do think we need to decide in terms of informing the public and informing ourselves. This issue is very complex with lots of ramifications. Even if we found the center of gravity as to what the Committee agreed on, we'd have to think very, very carefully about how to express that and what it implies for policy choices under different circumstances. I view this, at least for this part of the inflation goal, as just another step in a long process before the Committee should be comfortable with going public. We need papers that explore these implementation problems and implications, and then we need to agree among ourselves what all of that means.

As for the proposed trial for producing a forecast narrative, I strongly support that. The issues that have been pointed out are key. How to express the uncertainty is very, very hard. If someone asked me to express my uncertainty, I have no idea how I would do that. I would call Dave and ask him to run the model, [laughter] and he would get the model results. That's exactly what I would do. But there may be other ways of doing that, and I think we need to explore that issue further.

The path for the fed funds rate is a very difficult issue as well. I'm not quite where President Plosser is about publishing fourth-quarter levels. I have some concerns about whether that would be viewed as a commitment or not. I'd prefer to let Sweden and Norway experiment with this a little

longer [laughter] before the United States joined the full frontal review here. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Poole has a comment.

MR. POOLE. Given that I was so frugal—I think I was frugal—in my initial comments, I'd like to provide some very quick additional comments. The biggest mistakes that central banks have made historically have been when they've allowed price stability to slip away and it has had very, very large effects on employment. If you have an intense interest in employment stability, you ought to have an intense interest in price stability, and we can point in the history of the Federal Reserve to the Great Depression and the period from 1965 to 1980. I can't guarantee that a price stability numerical target written into the Federal Reserve Act in 1913 would have avoided those disasters, but I think that it would have made a difference. We could also point to the Japanese experience. If Japan had had a clear endorsement in its formal policy of price stability in 1990, a decade of deflation and stagnation might have been avoided. Those really big mistakes are what worry me and are why I think that we should go in this direction. That point hasn't been made, but to me it is the biggest argument for doing it. The protection of high employment is the reason that we want price stability.

On the PCE and the CPI issue, the reason that I favor the PCE—and I could certainly go for total PCE—is that the CPI is subject to changes in weights as a consequence of public policy decisions. The reason that the medical care component of the CPI is only 5 percent—and I think it's around 17 percent in the PCE—is that so many entities besides the consumer pick up medical care expenses. Other parts of the CPI are probably subject to distortion for that reason. I can imagine public policy in the health-care area taking two different tacks going forward. One would be a move toward the single payer system, in which you and I would pay our medical expenses through



taxes and not through co-pays and writing checks to physicians; the other would go in the direction toward health savings accounts and tax incentives, in which case much more of the medical care would come down on households and would show up in changed weights in the consumer price index. To me that vulnerability of the index and the weights is a powerful argument. That's the reason that housing is so big a fraction in the CPI—an unreasonably large fraction—because other components are affected the other way. I think that the case in terms of public understanding for the CPI would have been very strong five years ago. But the Federal Reserve has been talking about the PCE for quite a long time now. In fact, if we were to move toward the CPI, it would be backtracking from the direction that this Committee has taken in recent years. So I think the argument for continuity at this point is really for the PCE. Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Warsh.

MR. WARSH. Thank you, Mr. Chairman. I thought I would just state a few points as sort of a predicate before diving into the questions. First, I probably have a bit of a financial market bias on this topic, and I would begin by saying that the financial markets rightly or wrongly already believe that we have some form of inflation targeting. So that's in some ways my own jumping-off point. I'll admit that it's soft. It's confusing. It's a little bit ugly. There is a lot of ambiguity, but the question that's ripe for consideration is what the relative benefits and costs are of establishing a more crystal clear objective from that point. Second, as background with respect to the economic forecasts, the financial markets have necessarily been forced to construct their own narratives. In fact, until very recently, really until the past year or so, they've not focused a lot on our projections. I'm quite encouraged that over the past twelve months they've spent more time and attention on them. So it strikes me that there's a much clearer case for real net benefits in elevating and explaining our projections. As a final jumping-off point, I would say that the outcome that weighs

quite heavily in my assessment of this subject is what quadrant we want to avoid. I drew for myself a simple two-by-two figure: Establishing a target and not establishing a target are on the Y axis, and success and failure are on the X axis. In some ways our job is to avoid establishing a target and failing. We're trying to avoid that quadrant. That quadrant strikes me as considerably worse than staying in some ambiguity, such as where we are now, and over time, as I think President Poole rightly warns, worried that we might fail. It strikes me as important that there is somewhere to go and that we still have an out. We can adopt some kind of shock treatment, as other countries with far less credibility have done. So I would say that the basis of my answer to these questions is really trying to avoid that quadrant.

In weighing the relative benefits and costs, I'm more convinced that the benefits are small than that the costs are small. I'm really not sure about the costs. For all the discussion that we've had here and for all that's been written publicly about the inflation-targeting question, what is far more important than our enunciation of an inflation target is the way it works in practice. As to the points that President Stern made about our accountability and credibility, we could agree on the perfect inflation target with the perfect ranges and have that all work perfectly, but if we and our successors don't abide by the rules that we set, then all is for naught. It reminds me a bit of the discussion that occurs in the Congress about tax policy. They fight over whether tax policy is permanent, they spend a lot of time debating that back and forth, and it is not permanent because other Congresses can immediately undo what they did. So I'm a bit hesitant to suggest that, even with our best intentions and even with unanimity around this room, over time we wouldn't be sending mixed messages to the marketplace as our preferences change and as our membership changes.

With that, let me go to the questions at hand. I would reserve the right not to make a final judgment on the price stability goal questions until we conclude our thinking to a significantly greater extent on the economic projections. Should we define a numerical objective? Ultimately there may be net benefits to establishing the objective, but I'm not yet convinced as to the gains. Maybe even more important, I would prefer not to implement any final decision on the numerical objective until we have made progress and have implemented the economic projections, and I've really tried to focus on not prejudging the latter question. Why should those two issues be separated? I think they should for a couple of reasons. First, these projections are going to be terribly important, and if we bundle them with our answer on the inflation target question, we would be stepping on our own message and on our own focus. There's a lot here for the capital markets to swallow, particularly as many people around this room have described what they're trying to achieve. I feel as though the projections would become relegated to the back burner in public discussion if they were placed in tandem with an announcement on the numerical objective.

I'm also worried about the timing of the rollout. It's easy for me to say that I would rather the times to be more benign before we make a decision on the numerical objective. That might be foolhardy. There may just not be a perfect time in which to take this step, but, boy, I'd certainly be more comfortable if we announced an inflation target with which we were at that very moment broadly consistent. To the extent that we're not, in my own thinking about credibility and accountability, I would in answer to the rest of the questions let my numbers be a little higher and my timing be a little more robust. My vital sense in combining these two questions is that slow and steady will win this race and that it would be hard to walk back from a numerical objective if we're unable to accomplish it properly, whereas I think we have only gains to be made from taking this in stages.

Regarding the question of whether it should be a point or a range, my answer is perhaps too practical. I think the ranges—for example, those that we've given on economic projections—have been broadly misinterpreted by the markets. If we look at the monetary policy testimonies and let's just say, for purposes of exposition, that each of our forecasts in the central tendency is between 2 and 3 percent, that range gets reported, and I think it is understood as the FOMC's belief that the economy will grow between 2 and 3 percent next year, which is quite different from the statements that we've made. That is, we all have different uncertainty bands around our projections, but the range, even in the context of a numerical objective, is harder to explain. My preference would be, if we were to go down that path, to establish a point and suggest that there could be variance around it most of the time. In that way, misses could be frequent, and the judgments that we made would be perceived to be less mechanical and less formulaic.

With respect to the time horizon, certainly these words would be discussed in association with one another. The language with which I would be most comfortable would be that the goal should be generally achieved in the long term in a manner consistent with the dual mandate. A flexible horizon is more useful for us to demonstrate consistency with previous Fed actions. It's more consistent with our focus on evolution and is more suggestive that we're not somehow crossing the Rubicon here. This is really what we have long done, and we're simply taking a next logical step. I don't feel strongly about the question of the price index. Obviously, as Governor Kohn suggested, the more long term the focus is, the less the index matters.

In terms of the group versus individual dynamics, I find it hard not to argue that a consensus view is far preferable. I would point out one consequence of the other way. If the judgments end up being too diffuse, too individualistic, we might actually get some negative value on our communication with the financial markets. My sense is that unanimous is great, close to unanimous

is pretty good, and if we get much below a strong, strong majority, I am worried about mixed messages as this policy gets rolled out.

In terms of the projections, on which I don't think we've spent a ton of time in today's discussion—nor was that its purpose—I just reiterate that most of our judgments here are forward looking. Most of our determinations on policy are data dependent. By focusing on the projections as a first step, I think we can put the markets, broadly defined, in better recognition of what that means. I support the trial run in May. I suppose that the confidentiality around that dry run is essential to making it successful. If word of that dry run found its way into a broader constituency, I think we'd very quickly find ourselves having to make decisions before being ready to do so. What I've seen of the narrative from the staff I thought was very good, but I still am troubled about whether we can describe our uncertainty in a sufficiently robust way. I thought that was a very good swing at it, but I reserve the right to revisit that note so that it conveys our sense of uncertainty without sounding too obscure. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Moskow.

MR. MOSKOW. Thank you, Mr. Chairman. I have two introductory comments. One, thanks to the staff—that was a great job, as others have said. Second, Mr. Chairman, I am assuming that you're going to seek a consensus of the participants on this, not just of the voting members.

CHAIRMAN BERNANKE. Yes.

MR. MOSKOW. I guess I have the advantage or maybe the disadvantage of going near the end. I think hearing the discussion is an advantage, though. I'm reminded of the famous term that Alan Greenspan used—"conundrum"—and I view this as a kind of conundrum. We have the dual mandate in our legislation of price stability and maximum employment or maximum output, but in our heart of hearts, we believe that we really can influence only one of those in the long term—the

price stability objective. We also believe that influencing that objective helps us achieve the longer-term objective of maximum employment or maximum output as well. So if we set firm quantitative guidelines for price stability—and I'll define "firm" later—we're then going to be pushed inevitably to have some type of quantitative guidelines for output. That consideration leads you to the position of "Well, let's not set too firm a quantitative target for price stability. Let's make it looser. Let's make it flexible." There's a sense of that from at least some people who have spoken here today. But then, of course, the looser you make it, the more flexible, the more the claimed benefits decrease as a result. You have less of an anchor to inflation. You have less accountability and discipline. You have less transparency and less facilitation of internal and external communications, which are the claimed benefits of it.

So I just want to say that I clearly favor policies consistent with low and stable inflation, and I think we've done a pretty good job of it so far if you look back at the Volcker years, the Greenspan years, and the Bernanke years. I'm still not convinced that we should have a quantitative goal for inflation at this time. It's a huge decision. It sets us down a road that I think you just can't reverse. I don't see the overriding reason for it as I've listened to this discussion. I've heard phrases such as "it's difficult to quantify the benefits"; "the benefits are not enormous"; "the benefits are small"; "it's a close call." Some people at least believe it's a close call, and if policy is working well now, why do it? I think it is risky. Tom talked about the unintended consequences. Kevin referred to avoiding that corner of his grid, which I agree with completely. So I would proceed very cautiously on this.

I, too, started at question 4 because, given our dual mandate, I think the time frame is, in a sense, more important than the target. Someone said that we need to specify a time horizon to be held accountable, and I agree with that statement. But then what's the accountability for the other

part of our dual mandate? Wouldn't someone say that it's appropriate that we be held accountable for the other part of our dual mandate? This thought brings me back to the conundrum I mentioned before. A two-year time frame inevitably raises the issue about the dual mandate, and that short a time frame doesn't give proper respect to the dual mandate either. I'm not comfortable using the medium term, which other central banks have used. I think that over the business cycle is better. I prefer to have no time frame, or I'd be comfortable with the terminology that Kevin had, which would work in that direction as well.

Getting back to some of the particular points, what index would I prefer? I've talked publicly about a comfort zone of 1 to 2 percent core PCE, but a long time frame says let's go to the overall measure because the overall and the core should be the same over time. So I would shift to the overall measure; it is more understandable. I can see arguments for the PCE or the CPI. I think that's a second-order question that we can talk about once we decide whether to go overall or core. Whether to take a point goal or a range—again, going to a long time frame pushes me toward a point, not toward a range. Someone threw out a range of 1 to 3 percent or a range around that. I get nervous when we have a wider range because it gets into the consideration of whether it is a zone of indifference. Are we indifferent at any point within that range? If someone said, "Let's have a point," and then we'd have brackets around it and that would give people the idea that we're more comfortable with its being within those brackets. But then, if there's a shock and we go outside the brackets—let's arbitrarily say 2 percent and the brackets are 1 to 3 and then it gets up to 3.1—are people going to assume automatically that we will respond more immediately to that shock than if it were 2.9? I think that's the type of situation you get into. So I would just stick with the point. I don't see the benefit of going to the brackets. I am also nervous about starting with a high number. To me, 2½ percent is a high number. I think that number would appear to the outside world as

opportunistic and as a very high number for this central bank to be setting for its long-term objective. So I would prefer a number below 2 percent.

The time frame I've already talked about. On the consensus, we don't want to change the number once we set it. But we have a governance procedure, and I think this would be an important governance issue. We'd be operating in the absence of a legislative mandate, and we have turnover among Governors and Presidents and some pretty soon. [Laughter] This would probably require an annual reaffirming of the decision. I think you'd have to do it, given the turnover that would occur. I think it should be a consensus of all participants, not just the voting members. On the survey question, I smiled when Rick withdrew his suggestion, which he made last October, about having a survey. The reason I smiled is that I read the transcript, and it's absolutely amazing. More than half the people agreed with the suggestion that you withdrew. So, Rick, I just want to say that you have enormous influence over this Committee, [laughter] but I agree it should be dropped.

MR. MISHKIN. Thank you. [Laughter]

MR. MOSKOW. Today. [Laughter] On the experiment, it is worthwhile; I think that we should proceed with it. It will provide us with more useful information. We have some specific suggestions on the details of it, but we can give those later.

CHAIRMAN BERNANKE. Thank you very much. Governor Kroszner.

MR. KROSZNER. Thank you. Since lunch is looming, I'll try to be as brief as possible. The key to what I hope we will be trying to achieve is better credibility to make monetary policy more effective and to fulfill our dual mandate better. I very much agree with President Poole's comments that it's valuable to make sure that we have some insurance against mistakes. It actually fits well into the risk-management framework that Governor Kohn had articulated. That's what I see as potentially valuable about this. I do think that there is value along the lines that President



Stern discussed in terms of internal and external accountability and articulation. But it has to be seen in the context of a broader risk-management policy that helps us to fulfill the dual mandate. That's why I would support moving in this direction, although I'm also one of the people who see that it's somewhat of a close call. One can make a good argument that there is value in the insurance, but it is hard to quantify these things.

With respect to the particular price index, supposedly people have more familiarity with headline CPI than with core measures or with the PCE. I'm not sure in the real world that people know much about the differences among the various inflation measures. We talk about headline CPI. They look at the headlines about inflation, and I don't think that the distinctions between core and CPI and PCE are well known. But part of this is uncertainty on my part. I don't understand the exact nature of the expectations process or how expectations affect behavior. Ultimately what I want to do is enhance our credibility so that we can make monetary policy more effective. I lean toward core PCE because it seems to be a bit better correlated with the future paths of inflation, although in the long run they're all very highly correlated. Core PCE seems to be a bit better behaved. With this credibility approach and also with what affects behavior and expectations, my concern is that the more we deviate from our stated objective, either temporarily or for the long run, the less that objective is taken seriously. The more times the Chairman has to go to the Congress and say, "Well, you know, our objective is 2 but we have special circumstances here and this transitory part there," that seems to be at odds with getting to our objective of enhancing credibility. Now, I may be wrong. It may be that if people are really familiar with CPI, then that's the thing to focus on. I'm just not convinced of that because I think we know very little about people's expectations, the development process, and their behavior process. I think it's more just general credibility—that it's clear the Fed has tried to ensure that inflation doesn't stray out of a particular

range or away from a particular point. That's the message, and that we achieve it. I think that's the best way for us to achieve the dual mandate.

On the third question, whether a point or a range, my answer is "no." I want something in between, much the same as what President Stern articulated—perhaps something like no more than 2 percent but not much below 2 percent, something like what the European Central Bank does—because it is better not to have a range for the reason that many people have said but it is also nice to have a little flexibility. This specification doesn't explicitly articulate the range, but it gives us flexibility and keeps us away from the zero point. I don't see a lot of welfare benefits with going much below that, and I don't see a lot of welfare benefits in moving dramatically from where we are now, which is not the best situation but is by no means a terrible situation.

With respect to the horizon, more flexibility is better. This fits in with the risk-management approach. If push comes to shove, if I had to say a number, I'd say something like three years plus or minus a year. But I think it would be better just to say over an intermediate term or a long run or a business cycle or some other term that gives us flexibility to respond to shocks. I like President Pinalto's approach to set it and forget it. Unfortunately, in practice that will be difficult because of turnover of the Committee. If a goal is changed each year or is not reaffirmed each year, the whole enterprise is undermined. So we have to make sure that, if we do articulate a goal, we feel pretty comfortable that members of the FOMC, at least into the foreseeable future, would be comfortable with that goal; otherwise the whole purpose of having the goal is undermined. With respect to the trial run for producing a forecast, I think that's very valuable to do. I think we'll learn a lot by actually doing it to see what we feel comfortable or uncomfortable with regarding uncertainty. Thank you.

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

MR. MISHKIN. Yes. Actually it's an issue concerning some information that perhaps Karen can provide for us. The ECB has used "less than 2 percent but close," and in a way I find that very attractive. But I do worry. I know the academics have been quite critical of that articulation of a target as being a little waffley. I don't know if that's really accurate or not. Karen, do you have any feel for what the reaction has been? Maybe people in general have been a bit concerned about the ECB's communication strategy. It may have to do more with the second-pillar issue. But has there been any problem in this regard?

MS. JOHNSON. Well, it is complex. I would say "yes." There are three things. First, people find the statement Rube Goldberg-ish. It just seems odd to say that it is less than 2 percent but close somehow, right? If you mean 1.9 percent, why don't you say 1.9? Certainly criticism is directed there especially. Second, the fact is that the ECB hasn't achieved it. On this back page, if you look at their 2 percent line, you'll see that very seldom do they ever achieve it. That hasn't helped the communication piece. Third, in general the ECB had communication problems. I can't sort out those three, but I would say that my sense is that most people still see expressing it that way as a weak point.

CHAIRMAN BERNANKE. Initially they began with below 2 percent and they clarified below, but not too far below; then that created at least a sense of a floor.

MR. MISHKIN. An issue that arose for the ECB, too, in this regard is that they had a whole big review—similar to the one we're doing—and then they came up with something that was considered Rube Goldberg-ish.

MS. JOHNSON. The policy people endorsed it even though all the papers that they had prepared for the conference didn't.

MR. MISHKIN. It just is a concern that we want to learn from other people's experiences, and on this particular issue there has been some experience that has not always been favorable. Even though in one sense I actually liked that approach and thought about it, I was a little concerned about exactly the issues that Karen has mentioned. Thank you.

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. This is sort of obvious, but the further out you go, the more uncertainty there is about the purchasing power of the euro. What would you tell someone to assume for twenty years' worth of euro inflation? If you can't give them a number, that's intensifying the uncertainty in a seemingly needless way.

MS. JOHNSON. I guess they would think that they had put on a ceiling and that it answers that question at least as well as any other statement that has a number attached because they have a ceiling. The fact that they have not hit it is a different question, but they put it in place.

MR. KOHN. A little information here: A chart in the right side of the blue folder from Karen shows that, in consensus economics expectations for ten years out, inflation has been pretty firmly anchored at about 1.9 for the past three years.

MR. MISHKIN. For the euro.

MR. KOHN. For the euro area, without any real fluctuation. In fact, there is less fluctuation there than in the U.K. consensus economics and about the same fluctuation in their ten-year swap rate as in the United Kingdom.

MR. LACKER. That's great. I'm not surprised that there is some mean to the financial markets' estimate of long-run inflation there. That's consistent with the ECB's view about how they conduct policy—I mean, this is more of an optics and communication issue. If that's how they're conducting policy, why not say 1.9?

CHAIRMAN BERNANKE. Vice Chairman, you have the floor absolutely. [Laughter]

VICE CHAIRMAN GEITHNER. Thank you, Mr. Chairman. I think three things about our current regime are worth reflecting on as to whether we can improve them. They are, first, the lack of clarity that exists about how we define our objective; second, the relative lack of texture that we provide about the outlook and the risks that underpin our decisions relative to some other central banks; and third, the way we run our internal conversation. In all these areas, because institutions are subject to inertia, we're probably short of the frontier of the achievable, but I think it's worth thinking about whether we can get closer to the frontier. I just want to raise some questions that I think are the hardest for us to work through in figuring out how we should evolve—and I think we should evolve.

The first issue is about the balance between the benefits of the regime and the costs. The problem we face is that, based on what we know about the theory and the experience, the gains on expectations relative to what we have already achieved as a central bank look pretty small. I think there's a broad consensus that they're small. There's a greater dispersion of views about what the costs are. Some of them are transition costs—how you get where you're going and the political issues that surround that. Some of the costs are more uncertainty about the effect on how you operate going forward. The difficulty in judging the balance between what we think we know about the potential gains and those costs is that it's hard to narrow uncertainty around the costs even after looking at the experience of other central banks. As many people have said, the experience of other central banks is pretty reassuring as to the costs. It's hard to argue that they are worse off because they have achieved this in terms of outcomes. But some of that uncertainty is difficult to narrow ex ante, and a lot of it will depend on judgments that we make about the design of the regime. But even those judgments won't fully answer the questions because, even if we tied them down now,

they would still leave some uncertainty about the effect on our incentives, our behavior, and our management of a regime that will have much more exacting demands on communication.

This problem is magnified by the fact that it is hard for us to adopt a regime with an explicit, fixed, relatively short horizon and to justify it as consistent not only with the dual mandate and the politics that surround that, but also—based on what we know about the experience of other central banks—with making sensible decisions about monetary policy that has multiple objectives over time. I don't think that outcome is realistic for us as a Committee. Therefore, you're talking about a range of options that are much toward the softer end—no fixed horizon, a horizon that varies according to the circumstances. The gains are going to look more tenuous. That's one issue that I think is interesting for us to think through.

The second issue concerns the initial conditions and the transition costs. If you're going to adopt an objective that's different from what people think your objective is and different from what best estimates of trend core inflation or trend inflation are today, those conditions and costs are very complicated. The dialogue between Rick and Jeff was very interesting. Both choices that exist today, if we were going to launch today, look very unattractive. You can basically decide that you will pick a target that's pretty close to what your judgment is about trend because that is slightly above what the market infers our objective is. To validate a higher objective than what they have been inferring is awkward and hard to see. It would be easy to say that you're going to adopt an objective substantially lower than that and believe that it would be easy for us to make it a simple, compelling political endeavor to achieve. So I think that issues about timing, initial conditions, and transition costs are very important and complicated to work through. But I thought you did a nice job of laying out the obvious issues on both sides.

The third issue that I think is interesting is the question about the strength of the consensus necessary to go forward and how you deal with it. I think you'd need a very strong consensus to go forward. Some would view this change in regime by the Fed as the most significant since Humphrey-Hawkins, maybe since well before Humphrey-Hawkins, and so you'd want to have a very strong consensus. When you decide, on the strength of that consensus, you had better move forward. You have to have agreement. People have to agree that they're going to operate under that regime, and I think we will, in effect, need to bind our successors to operate within that regime. Even if you have a regime in which, because of the legal or practical circumstances surrounding the institution, you have to have a periodic reaffirmation of that objective, in effect you're binding our successors because we all agree that once you do this you can't go back. We can't contemplate the possibility that we're going to adjust it in response to the changing preferences of different Committees over time.

The fourth issue that I think is interesting for us is that we have to design a process of internal deliberation before launch that allows us to get more comfortable with the way we would operate. The aspects of our internal decisionmaking process that are least well suited to operating comfortably in any of the variants of the regime that we've been discussing are the lack of clarity that we live with about what our individual preferences are, about how that informs our different views about the structure, about how we inform our choices about appropriate, desirable paths for inflation, and about what monetary policy we think is consistent with that. As we've been discussing, we need to bring a little more internal clarity to that conversation. We need to know why we're disagreeing when we disagree if we're going to be better at thinking through difficult choices. There is also the related gap in how we talk about this stuff today, as Don Kohn said. Even if you only talk about a regime toward which you may be leaning or publicly disclose things

about your forecast or move in the direction of a quantitative definition of inflation, we're going to have to have a more explicit conversation about what we think is the appropriate path or slope of the path. Even if we don't want to adopt a fixed horizon that varies over time and have that embedded in what we disclose about our forecast, we're going to have to have more explicit conversations about what we think is an adequate, acceptable path toward trend. That is a complicated conversation to have, and in my brief experience on the Committee, we haven't spent much time thinking about those kinds of choices. We'd prefer to live with squishiness, lack of definition, and ambiguity around those kinds of things because it is easier. I don't think we'd have that option in a regime in which we're moving toward more-frequent disclosure, three-year forecasts, and a central tendency of a path for these kinds of things. So my fourth issue is that we need to be careful in thinking through how we're going to get comfortable with the evolution in our internal regime that's going to be necessary to live within these kinds of regimes before we launch.

My last point is—I'm not sure how to describe this—about the stability in any proposal we adopt. We're all going to be tempted to soften the edges of what we're agreeing on to make the consensus as broad as possible. We need to be careful that, if we adopt the intermediate things, we look at them and think they will stand up pretty well to external criticism and that we're not going to find ourselves uncomfortable with having moved to that intermediate position. I think we're going to get pulled naturally further toward more clarity. The discussion about the past—for example, whether we reveal the conditioning assumptions of our forecast—is the best example of that. That's one instance in which you might decide that it's expedient to agree today that we're going to have an unstated, undisclosed, appropriate policy conditioning assumption for a forecast that has more clarity. But over time, as we've seen in other cases, there's going to be a lot of pressure to say, "But what does this tell us really? We don't really understand this." So we want to think through this



question about how to do something that is going to look stable over time. It doesn't mean we have to fix it and say we would never evolve beyond that. But if we know we're going to adopt something that's going to be unstable and subject to pressure to move, let's try to think through a bit in advance how we'd anticipate that pressure and respond to it. We can make the same point about the importance of thinking through the sequence of any evolution. I take Rick's point about the importance of being evolutionary in that respect. Just as an example, if we decide that we want to go first with the transparency around our forecast before consensus or clarity on a quantitative objective as publicly announced, we should be sure that we think that's an optimal chain of decisions, too. So the questions about sequence are going to be important to work through. I have a bunch of comments on the initial proposal for a narrative description of our forecast and the way uncertainty is captured. But if the Chairman permits, I will submit those directly to the staff for the record.

CHAIRMAN BERNANKE. Certainly. Thank you very much. Let me thank the Committee for yet another very thoughtful and helpful discussion. I appreciate the time you've spent preparing for this. Thanks also to the staff. I thought the background materials were excellent. I'm not going to say much. I'm just going to make a couple of comments. If we do adopt an objective, it needs to be consistent with the dual mandate. That's obvious and means a couple of things. One is that the long-run inflation rate would have to take into account, among other things, the zero bound. I think that is an issue. I would not be comfortable with a range that involves having the inflation rate, say, below 1 percent a significant amount of the time, stochastically speaking. So I think that's a consideration. Second, because we have a dual mandate and because it's an implication of optimal monetary policy, the horizon has to be quite flexible. Is that meaningless? I don't think so. In particular, if we begin to use the projections more actively,

the projections would give a good bit of guidance to the public about the time it takes to get back to the target range. In particular, we could also, through our communications, discuss how the adjustment period depends on initial conditions, the state of the economy, and so on.

I'm flexible on the choice of index. I heard a lot of interesting discussion today. I am somewhat attracted to the headline CPI. I do think that people understand it more. It appears in labor contracts, for example, and in other wage discussions. It obviously appears in the TIPS and other places. So I think it's worth considering. One possibility, choosing a headline CPI around 2 percent, would be reasonably consistent with a 1 to 2 percent core PCE in a sense because of the measurement difference. But that's an open question. I think it remains to be discussed. We have a lot to digest here, and we're going to be thinking very hard about all the comments we heard today. The subcommittee I know will try to come up with some. Don, I hope by tomorrow you'll have a few—[Laughter] Again this has been very useful.

I'd like to just make one comment on the projections, which again I think are potentially very valuable. This is about the assumption of appropriate monetary policy. The way that's interpreted now is that each person chooses his or her own path for appropriate monetary policy, and I think that sometimes leads to somewhat confusing outcomes. If you have someone, for example, who is pessimistic about where inflation will actually go but who has a low inflation target and, therefore, has an appropriate monetary policy that's much more aggressive than everyone else, he or she will report a good inflation outcome, and the press will report an optimistic Fed as far as where inflation is going to go. I would just like to put that out for consideration, since we're going to do several dry runs. By the way, I don't anticipate that we will be doing this live for the July Monetary Policy Report. This will take a while, so don't worry about that. One alternative, which I believe I mentioned before, would be for us to make an unconditional forecast, by which I mean

that we would essentially be saying, “Well, what do we think the Committee is going to do?” and conditional on that, what we would expect the economy to deliver. That, I think, would probably be easier for the public to understand than the way we do it now, with each person having his or her own conditioning policy assumptions. But I leave that for further discussion and for the staff also to think about.

If there are no other comments, again, thank you. We will have lunch in the anteroom, and the next meeting will be May 9. We are adjourned.

END OF MEETING