

Meeting of the Federal Open Market Committee
July 2-3, 1996

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, July 2, 1996, at 1:00 p.m. and continued on Wednesday, July 3, 1996, at 9:00 a.m.

PRESENT: Mr. Greenspan, Chairman
Mr. McDonough, Vice Chairman
Mr. Boehne
Mr. Jordan
Mr. Kelley
Mr. Lindsey
Mr. McTeer
Mr. Meyer
Ms. Phillips
Ms. Rivlin
Mr. Stern
Ms. Yellen

Messrs. Broaddus, Guynn, Moskow, and Parry,
Alternate Members of the Federal Open Market
Committee

Messrs. Hoenig and Melzer, and Ms. Minehan,
Presidents of the Federal Reserve Banks of
Kansas City, St. Louis, and Boston respectively

Mr. Kohn, Secretary and Economist
Mr. Bernard, Deputy Secretary
Mr. Coyne, Assistant Secretary
Mr. Gillum, Assistant Secretary
Mr. Mattingly, General Counsel
Mr. Baxter, Deputy General Counsel
Mr. Prell, Economist
Mr. Truman, Economist

Messrs. Lindsey, Mishkin, Promisel, Rosnick,
Rosenblum, Siegman, Simpson, Sniderman, and
Stockton, Associate Economists

Mr. Fisher, Manager, System Open Market Account

Mr. Winn, 1/ Assistant to the Board, Office of
Board Members, Board of Governors
Mr. Ettin, Deputy Director, Division of Research
and Statistics, Board of Governors

1/ Attended portion of meeting concerning issues relating to long-run price objective for monetary policy.

Messrs. Madigan and Slifman, Associate Directors, Divisions of Monetary Affairs and Research and Statistics respectively, Board of Governors
Mr. Brayton, 2/ Ms. Johnson, 2/ Messrs. Reinhart and Smith, 3/ Assistant Directors, Divisions of Research and Statistics, International Finance, Monetary Affairs, and International Finance respectively, Board of Governors
Ms. Kusko 2/ and Mr. Wilcox, 2/ Senior Economists, Divisions of Research and Statistics and Monetary Affairs respectively, Board of Governors
Ms. Garrett, Economist, Division of Monetary Affairs, Board of Governors
Ms. Low, Open Market Secretariat Assistant, Division of Monetary Affairs, Board of Governors

Ms. Holcomb, First Vice President, Federal Reserve Bank of Dallas
Mr. Beebe, Ms. Browne, Messrs. Davis, Dewald, Eisenbeis, Goodfriend, and Hunter, Senior Vice Presidents, Federal Reserve Banks of San Francisco, Boston, Kansas City, St. Louis, Atlanta, Richmond, and Chicago respectively
Messrs. Kos and Meyer, Vice Presidents, Federal Reserve Banks of New York and Philadelphia respectively

2/ Attended portion of the meeting relating to the Committee's discussion of the economic outlook and its longer-run growth ranges for the monetary and debt aggregates.

3/ Attended portion of the meeting relating to the Committee's review of its swap line agreements.

Transcript of Federal Open Market Committee Meeting
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July 2, 1996--Afternoon Session

CHAIRMAN GREENSPAN. I would like to welcome Governors Rivlin and Meyer to their first exposure to this Committee. I also would like to welcome Helen Holcomb, who is First Vice President of the Dallas Bank, to her first meeting. I hesitate to welcome, but I have no choice after we approve the minutes, our friend over there. Would someone like to move the minutes?

SEVERAL. So move.

CHAIRMAN GREENSPAN. Without objection. Peter, I was referring to you a moment ago. [Laughter] You are on.

MR. FISHER. I will be referring to the package of charts that was just distributed. [Statement--see Appendix.]

CHAIRMAN GREENSPAN. These are very interesting charts. I am a little puzzled by the implicit theoretical construction in the charts showing the relationship between implied volatilities on currency options and exchange rates. I would not have a problem if you were endeavoring to evaluate a market price for stocks, bonds, tomatoes, or whatever in which there is only a net long position. But exchange rates are not of that nature, of course, and what appears to be a theoretical basis for arguing that low volatility is a harbinger of a weak dollar--or whatever you were saying!--is it a sharply rising volatility that you were saying is a harbinger of a weaker dollar?

MR. FISHER. A change in the dollar. I tried to be careful. If you look at those two charts, they tend to suggest a random walk in the relationship between increased volatility and the direction the dollar will go, but in the last few years the direction has been toward a weaker dollar.

CHAIRMAN GREENSPAN. What I have to say has nothing to do with your statement! [Laughter] I am a little puzzled in the sense that whatever the theoretical construction there is for the dollar, it has to be exactly the opposite for the deutsche mark. I am curious as to how you explain the fact that you are getting this type of relationship in one currency and not the reverse in the other. Are we looking at really random events or is there a theoretical conception that you can impose on these data to explain why you don't get opposite effects for the dollar versus the mark.

MR. FISHER. Well, I am not going to be able to answer that at the theoretical level for the long sweep of history. The data show that it is in the last couple of years that the market has had a bias in favor of the mark; when volatility pops, it is the dollar that weakens. The point is that it ought to be a random walk as to which way the exchange rate goes when volatility goes up, and I think that is probably the case in the long sweep of history. The phenomena that I am looking at and I am concerned about are not a theoretical or principled articulation of the relationship between options and spot prices, but they relate to what I have observed and heard in talking to dealers, namely, that people are writing a very large number of

options right now. So, I am offering you statistical data points in the chart that reflect what we hear in the market about all the options that are being written.

CHAIRMAN GREENSPAN. Theoretically, in exchange transactions all technical factors should be neutral. To the extent they are not neutral, then we have only net long positions in some particular security, or claim, or something of that nature. I am really puzzled that we can construct something like this. I don't deny the relationship, but it is not outside the realm of a random walk. Clearly, we get noise in any series, and I am just curious whether or not you have come upon something that has little more than curiosity value versus something that may explain certain fundamentals about the market itself.

MR. FISHER. I think I have both a degree of curiosity and, given the history of the last few years, a point of concern about the level of options being written.

CHAIRMAN GREENSPAN. You should think about that. This is an interesting set of relationships, but I am not sure what to make of it. As I said, I am curious. Governor Lindsey.

MR. LINDSEY. I share your concern. I am a little worried about what we may be seeing. I had thought about this a little differently. It would seem that this autumn is going to be an interesting period, particularly among European currencies. What is motivating banks to write options, to bet on continuing low volatility in the exchange market when, just reading the papers, we are told that volatility is going to be increasing? It seems to me that there is a lot more risk out there than usual.

MR. FISHER. The incentive that is most evident to me is that they can't make money through normal channels.

MS. MINEHAN. They can't make money the old-fashioned way!

MR. FISHER. They now are subject to a rather disciplined approach to income targets that are set in terms of the level of income they are supposed to achieve month by month. I am not saying that is a pretty sight.

MR. LINDSEY. So, we are back in the incentive-structure problem?

MR. FISHER. I think in the short run, yes, that is a big part of it.

MR. LINDSEY. It is not the first time.

CHAIRMAN GREENSPAN. President Jordan.

MR. JORDAN. Peter, I have a question about your domestic operations. When I see something like a 50 percent fed funds rate, it catches my attention. In your comments you made some reference to the inefficiencies and anomalies in the distribution of reserves yesterday and again today that initially led banks to think that the market for reserves was tighter than was actually the case. What all that says

to me is that there is an inefficiency in the market due to the quality of the information. Some of that information we have. It is an infinite regression sort of thing. We are trying to guess at what bankers' behavior is going to be over the maintenance period. Their strategy is to run reserve deficiencies until the 14th day of the period and then look to us on settlement day as the reserve supplier of last resort. We and they guess at what the total supply of reserves is in the market and its distribution, and on the last day of the period they come in to borrow from the Federal Reserve. Can't we improve on that somewhat either in the quality of the information we give them or the way we operate to smooth out the availability of reserves over the maintenance period?

MR. FISHER. Let me try to take the second leg of that first. The skewing of the demand for reserves toward the end of the maintenance period is a normal pattern but one that we have seen become more pronounced in the past year. My initial reaction to that was to try to force banks to smooth their demand for reserves, force them to come to me in a smoother way over the course of the period. That, though, has the negative feedback consequence of making the funds rate very soft early in the period. We just can't fight it. They want the reserves when they want them and pushing too hard to counter that does not work. So, in the current environment I have not found it a fruitful course to try to insist that they take reserves when I want to give them.

With regard to the information available to the market, I think there may be some steps we could take. I am somewhat uncomfortable with the continued use of the customer RP, which is a bit of an historical artifact. It used to reflect the pass-through of the repo pool when the repo pool was only \$2 or \$3 billion or some similarly small amount. Now the repo pool is \$10 billion or more, and we really do not pass it through to the market in any sense. The customer RP also was used by my predecessors as the non-signaling device, which likewise is no longer necessary, but it does have the tradition of having the amount to be done publicly attached to it. One thought I have, which I intend to propose when I come back to you with an outline of the steps we have to go through to conduct our operations earlier in the day, would be to ask for your guidance on my desire to eliminate the use of the customer RP as we now employ it. We would do only System Account RPs. Currently when we do a customer RP, we announce that we might do, say, a total of up to \$1.5 billion; however, if we tell the market that we are doing RPs for System Account we never announce how much we are doing.

I think a big step in the right direction would be to limit our operations to System repos and when we finish our review of the propositions we have received in a given operation we could then announce to the market how much was done--whether it was \$4.5 billion or whatever the amount. Interestingly, that would not have helped us all that much yesterday when we had a very anomalous day. There were more reserves than we thought, and we would have led the market astray in thinking there were fewer reserves. So, that would not have helped. A combination of things occurred yesterday. One major bank making payments on corporate securities delayed the payments until very late in the day, so recipients of very routine dividends did not think they were coming. Another bank experienced a shortage early in the day but ended the day with much more funds than they had

anticipated. All of that money became available toward the end of the day, and the federal funds rate fell sharply late in the day. So, our provision of a little more information yesterday might have misled the market. But in general I think the practice would be useful and I intend to come back to the Committee--perhaps at the August or September meeting--with a little more detail on how we might provide more information to the public.

MR. JORDAN. Will what you come back with address the fundamental issue of the current reserve settlement structure, which as I recall was set up in the early 1980s to improve the control of M1? That was the motivation, which is no longer relevant, for setting up this kind of settlement procedure.

MR. KOHN. We do have some folks looking at what you are referring to--the notion of contemporaneous reserve accounting versus lagged reserve accounting. There would be transition costs to going back to lagged accounting and the issue is whether those costs would be outweighed by the benefits of reduced reserve requirement uncertainties. We have staff both at the Board and at the New York Bank looking at how we could simplify things.

CHAIRMAN GREENSPAN. Vice Chairman.

VICE CHAIRMAN McDONOUGH. I would like to state a hypothesis and then ask Peter how he would evaluate it, since he is closer to the foreign exchange market these days than I am. It seems to me that one of the reasons that people are writing a lot of options--because that is where profitability is available--is driven by developments in the foreign exchange market. The major players now have such an investment in people and systems that they have very heavy fixed costs. For example, part of the remuneration that they had deemed to be variable in the past, namely the bonuses, are now becoming more and more sticky. We have major foreign banks, mainly in the New York market, who are hiring reasonably pedestrian dealers in all kinds of market instruments but especially foreign exchange and giving them fixed-period contracts with assured bonuses. So, the bonus becomes a fixed cost for two or three years. When they are in that kind of situation, unless they are willing to absorb operating losses, they have to scramble and look for whatever profit opportunities seem to be available. That means that they would have a tendency to develop very large positions, whether it is in derivatives or the cash market. So if there is an unexpected move in the market, the likelihood of people scrambling to cover their positions can lead to greater volatility. Does that make sense to you, Peter?

MR. FISHER. Yes, I think it does, particularly in the foreign exchange market. The early to mid-'90s was a period when these firms were building up capacity. The great successes in income terms in '92, '93 and '94 for many dealing rooms led them to build up their capacity and their fixed costs just as you described, and I think they are all feeling some pain now and, perhaps regrettably, that is driving the expansion in their position-taking.

CHAIRMAN GREENSPAN. How would the implied volatilities and the historical volatilities move with respect to the magnitude of exchange rate movements?

MR. FISHER. The exchange rate movements follow changes in historical volatility but with a lag.

CHAIRMAN GREENSPAN. What is the order of magnitude?

MR. FISHER. I am sorry I can't calculate that off the top of my head.

CHAIRMAN GREENSPAN. One of the issues that raises is that, if you have a structural problem in the supply and demand for options, it would tend to reflect itself in an inefficient options market which in turn would tend to reflect a pattern that differs from the actual volatility in the exchange market. One way of testing this hypothesis is to look at how these option volatilities relate to actual historical volatility, and that would give us at least some sense as to the structural change in the system.

MR. FISHER. Well, let me try this on you. I hope this is helpful. I talked with one person at a firm in this market for whom I have a great deal of respect, and he referred to the current level of options as both too high and too low. Implied volatility was too high because it was still considerably above the recent historical experience. It was too low for his taste because he didn't think he was going to get compensated for the risks he would be taking at the current levels.

CHAIRMAN GREENSPAN. I don't know what I am learning, but I am learning something!

VICE CHAIRMAN MCDONOUGH. I think the hypothesis checks out, but we can go back and do some work on that.

MR. FISHER. Yes, we will go back and work on that.

CHAIRMAN GREENSPAN. Governor Phillips.

MS. PHILLIPS. Peter, I just wanted to ask what the source of these options data was that you use for your calculations and charts.

MR. KOS. A couple of investment firms gave us the data.

MR. FISHER. The back data were provided by a couple of investment banks. We have been collecting more recent data routinely off the screens ourselves.

MR. KOS. These are fresh 1-month and 12-month implied volatilities on OTC options that are collected every day; the data are not obtained from the exchanges.

MS. PHILLIPS. So, they are basically over-the-counter. Do you think they are comparable going back as far as you do?

MR. FISHER. They are the best data we have been able to get.

MS. PHILLIPS. Well, okay.

CHAIRMAN GREENSPAN. Any further questions? Would somebody like to move approval of Peter's domestic operations?

VICE CHAIRMAN MCDONOUGH. I move approval.

SPEAKER(?) Second.

CHAIRMAN GREENSPAN. Without objection. We now move on to the Chart Show presented by Messrs. Prell and Truman.

MESSRS. PRELL and TRUMAN. [Statements--see Appendix.]

CHAIRMAN GREENSPAN. Going back to your analysis of world oil markets, I notice in Chart 8 that North Sea oil production is still increasing but at a slower pace. Are these statistics millions of barrels per day?

MR. TRUMAN. They are changes in production in barrels per day. Production is expected to peak in 1997 and to turn down after that.

CHAIRMAN GREENSPAN. I gather that the Norwegian expansion has been accelerating very recently. Is that going to peter out?

MR. TRUMAN. Well, as you probably know better than I, every time we have looked at North Sea production over the last 10 years, it was going to diminish in 2 years. The people who look at this, and they include the experts of the International Energy Agency, expect that Norwegian production will level off at a peak level in 1997 and then decline. That is, of course, one of the reasons why we don't get the same non-OPEC supply coming on stream as in recent years. That is the logic. New discoveries and new techniques obviously could lead to more production than we now assume, but that remains to be seen.

CHAIRMAN GREENSPAN. This table implies that we will reach oil inventory equilibrium at the end of this year. Is that going to happen considering the extreme shortfalls that we have experienced?

MR. TRUMAN. Well, one issue has to do with the question of Iraqi production coming on stream. In fact, we had assumed in our forecast that the 800 thousand barrels per day from Iraq in the second half of the year would be enough to plug the hole in stockbuilding that was created over the first half of the year. If that were not to happen, if the oil flow from Iraq were to start on January 1 instead of August 16, we would have oil prices staying up above the \$17 per barrel range through the fourth quarter and then coming down to the \$17 per barrel range over the first part of next year. So, the inventory plug results in some sense from the supply coming from Iraq.

CHAIRMAN GREENSPAN. And the assumption is that there will be no endeavor by other producers as a group to pull back on their oil production?

MR. TRUMAN. Yes. In fact, we probably will have a little more cheating.

CHAIRMAN GREENSPAN. President Parry.

MR. PARRY. Mike, when I compare the current forecast to the May forecast, there appears to be virtually no change in the economy-wide measures. I guess an exception is the CPI in 1996. Yet, as I

read the Greenbook, and the same impression came through in your presentation today, you seem to have shifted your assessment of the risks significantly to the up side. What is your rationale for shifting the risks without having an impact on the expected values in the forecast? In fact, I think I have asked this question about risks many times in the past, and as I recall I have gotten only one answer, namely, that the risks were symmetric.

MR. PRELL. I think there have been some occasions when we have indicated that the risks in our outlook were asymmetric. I would characterize our forecasts over the years as an effort to present a meaningful, modal forecast of the most likely outcome. When we felt that there was some skewness to the probability distribution, we tried to identify it. In this instance, as we looked at the recent data, we felt that there was a greater thickness in the area of our probability distribution a little above our modal forecast, particularly for the near term, than there was on the other side of our forecast. I am very conscious of the fact that we have made some of our biggest mistakes in the past by losing sight of the trends in responding to the run of recent data, and that is part of the reason why I tried to focus some attention on the GDP pattern on a moving-average basis. We have been getting very erratic movements in GDP data over the past year or two, and we may well be seeing another episode of that kind. I don't feel uncomfortable at all in saying that we think the highest probability is that we are going to experience some significant slackening of the expansion in the near term. We can point to some special factors that have lifted growth in the most recent quarter. Some of these affected just the second quarter and they were offsets to developments in the first quarter. Some may have lifted activity above what the second-quarter level would have been in the absence of various shocks, thus raising the first-half growth rate. On balance, we think there is a good case for the slowing scenario, but we also can see an alternative scenario with somewhat faster growth in the near term than we have projected.

MR. PARRY. Thank you.

CHAIRMAN GREENSPAN. Governor Lindsey.

MR. LINDSEY. Ted, in Chart 10, you have given us a nifty tool of analysis. I had a question about one of your assumptions. The policy assumption in the chart is that U.S. and foreign monetary authorities target nominal GDP. To my knowledge the nominal GDP developments in the developing countries, including much of East Asia and Latin America, have not had a big effect on our decisions. Would there be a need to relax that assumption with regard to developing countries?

MR. TRUMAN. Well, you have uncovered a sleight of hand. Actually, the formal assumption that we make for the developing countries in the model simulations is that their interest rates follow our interest rates. So, if we damp our nominal GDP or lean against a surge in nominal GDP by raising our interest rates, their rates go up, too. Actually, when we ran this simulation, that proved to be insufficient, for perhaps obvious reasons. We therefore went in and constrained the GDP growth path for those countries. That took out some of the shock, if you want to put it that way, so that growth in the developing countries did not continue on a higher path.

MR. LINDSEY. But your added constraint certainly isn't --

MR. TRUMAN. We got that result without specifying the policy mechanism by which nominal GDP is held down for those countries, but in terms of trying to control the impetus to the U.S. economy, we have achieved that modest result. In fact, when we did it another way, we came up with a huge expansion in the developing countries because the rise in U.S. interest rates was insufficient to set off a timely multiplier-accelerator process in reverse. We therefore went in and essentially damped things down so that we got something close to the same growth path from the developing countries as we did with the developed countries where the real level of economic activity rises through the first two years, then essentially levels off, and subsequently comes down a bit as the interest rate effects take hold. We have essentially the same income path in both cases for the U.S. economy.

MR. LINDSEY. Why wouldn't an exchange rate peg work in that model? It would be a somewhat more relaxed assumption than the one you made, but less relaxed than in an unconstrained model.

MR. TRUMAN. Yes, but the model runs off interest rates and the exchange rates of the developing countries do stay pretty much in line with the dollar. That is one of the reasons, in fact, why we have a different exchange rate in the two scenarios. In the first case interest rates go up more in the industrial countries than they do in the United States and as they go up that pulls up their currencies. In the second case, we don't have that effect, so that's why the dollar goes the other way than it does in relation to the currencies of the industrial countries, because we share in some sense the same income growth factors.

CHAIRMAN GREENSPAN. Vice Chairman.

VICE CHAIRMAN MCDONOUGH. I would like to refer to Chart 14 relating to the labor markets. On labor productivity, which obviously is a key consideration for the forecast, I think the most recent economic data have productivity trailing off even more than this trend line would indicate. Indeed, you have productivity improvement in 1997 at 1 percent in the forecast.

MR. PRELL. Roughly.

VICE CHAIRMAN MCDONOUGH. Is that something that you are concerned about in terms of the possibility that it might be on the high side or is that something that, within the confidence factors for estimating productivity, you are feeling rather confident about?

MR. PRELL. I would say that is one of the things that we feel the least discomfort about. We are forecasting fairly steady, moderate growth in productivity. We don't start off with any major disequilibria that we can see in terms of employers having hired well beyond production levels. A trend increase in productivity seems entirely reasonable in these circumstances. I think the question is whether the trend from here will be what it has been over an extended period. As I said, the trend has been pretty steady since 1973, and obviously we have discussed many times around this table whether recent higher levels of investment or changes in technology and so on

might bring about some acceleration in productivity growth. We have not seen it yet; the most recent figures don't indicate it. So, we are staying pretty much with a fairly straightforward extrapolation of recent trends.

CHAIRMAN GREENSPAN. Mr. Jordan.

MR. JORDAN. Mike, I want to ask a question to get your response from the standpoint of the forecast, but I also want to get Peter Fisher's response from the standpoint of how the market would react. You made reference to slight declines in longer-term interest rates; you used the 10-year rate in the chart. As I think about your forecast for the next six months, I ask myself what is going to happen after real GDP decelerates from an indicated growth rate of around 4 percent in the second quarter to rates in your forecast of 2.3 and 1.9 percent in the third and fourth quarters; the monthly average for the CPI is an increase of .2 percent for the remaining seven months of the year; housing starts drop from the 1.46 - 1.47 million area; motor vehicle sales and production drop from a rate of over 15 million units to something below that; and job growth slows to increases of only 100,000 a month in the final three months of the year. I wonder what the reaction is going to be in the bond market, if that pattern of economic statistics is seen as unfolding. Is that consistent with only a slight decline in bond yields?

MR. PRELL. That is a quite reasonable question, and I certainly would not see it as implausible to have the bond market rallying beyond our assumption for some period of time. In my view, the only thing that would tend to limit such a rally in terms of how far down yields might go permanently is that we don't have a particularly steep yield curve at this point. And if one hypothesized that a few months down the road the economy is perceived to be on a stable, sustainable, and moderate growth course with inflation perhaps creeping up, I would not expect--with the assumed 5-1/4 percent federal funds rate--to see the bond yield go a lot lower than we anticipate. Basically, we have the long bond moving down to a range of somewhere around 6-3/4 percent. It would not be surprising that a run of softer data would induce a bond rally that would bring the yield noticeably below that level. How far down the yield on the long bond would be expected to go an ongoing basis, I think, is the question. Clearly, there are some in the market who are talking about 6 percent bond yields and in terms of the variability we have been seeing in the market--the overshooting--that level is well within reach on a run of appealing data.

MR. FISHER. I can't improve on that; I agree with Mike.

CHAIRMAN GREENSPAN. President Stern.

MR. STERN. Mike, we recently had an auto industry consultant drop by the Bank. He had a couple of things to say that I, at least, found interesting and I want to get your reaction to it. First, he was quite sanguine about the outlook for light motor vehicle sales extending over a number of years; basically, he saw them continuing to run at 15 million units or so at an annual rate. It was largely a replacement story that he was telling. Having provided us with that, he also talked about what he perceives to be a great deal of excess productive capacity worldwide. Even allowing for further sales growth

in Latin America and parts of Asia, his view is that there is a lot of excess capacity around. I wondered if that was in fact right, because that would have some implications for the labor negotiations coming along later this year.

MR. PRELL. I don't know how much useful excess capacity is left in the United States. I suspect that when we tote the numbers up it looks as if there is a lot, but when we look at current production problems, we see that, for those categories of cars and trucks that people want to buy, the manufacturers would like to build more than they currently can. It isn't simply a matter of assembly capacity. In many cases the capacity limits are in the production of some key components -- engines and so on. So, effectively there may not be a lot of slack in this country. I suspect there is some considerable slack in Japan at this point and maybe elsewhere. When we talk about yearly sales of 15 million units or a little more on an ongoing basis, I guess I can't quarrel with that too much. I think the foremost authority in the room on replacement demand is the Chairman. He has done some research on this subject in the last few years. Looking at the results of that analysis, 15 million would seem to be a little high. But if you talk about an economy in which incomes are rising and people have a taste for having more motor vehicles per household -- maybe everyone wants to have a sport utility car, a family sedan, and who knows what else -- perhaps there is a potential for higher ongoing demand. I think the automobile manufacturers are looking at forecasts based on trends that are a little higher than we have in our forecast.

CHAIRMAN GREENSPAN. President Minehan.

MS. MINEHAN. Just a quick couple of questions, Mike. In the adjustments on the CPI that are more or less technical adjustments, have you gone back and redone the CPI over time, or perhaps back a couple of years, to see if we still have the same trend that we saw before? The striking thing about this Greenbook is that, because of those technical adjustments, we see inflation flattening out from where we think it has been. But it really has not been there because the numbers that we were using before did not have those technical adjustments in them.

MR. PRELL. Well, I will yield to my colleague, who is much more expert on this, but there is, in a sense, a discontinuity here. Some of the adjustments we are making have to do with the arithmetic that perhaps you can view as fairly predictable. When it gets to things like changing the way in which costs of medical care are calculated, there are real underlying economic considerations involved and the relationships could shift.

MS. MINEHAN. They may not be the same.

MR. PRELL. We have tried to make a sensible assessment of how movements in the old and new versions would go and that is what led us to make the adjustments that we did, but I think that all this is a little problematic.

MS. MINEHAN. Maybe very minor.

MR. STOCKTON. President Minehan, we have a long history of adjustments to the CPI; it goes back over the entire postwar period. Improvements are continually being made, but I believe there will be a concentration of them in this 1996, 1997, and 1998 period. In fact, we could see some discontinuities stemming from the improvements in methodology as well as changes in medical care estimates. In 1998, another significant change could be an updating of the weighting scheme that could take another couple of tenths off the core CPI.

CHAIRMAN GREENSPAN. You also have to look back historically and ask yourself what was actually going on. If we combine all the adjustments and go back in time, it does show a different picture. We have been looking at a picture in which core CPI appears to have flattened out.

MS. MINEHAN. Maybe it really has been declining.

CHAIRMAN GREENSPAN. The mere change of the dubious medical price component in the CPI for the much better medical net output price in the PPI plus a change in the weights in and of itself takes what was a flat trend and turns it down.

MS. MINEHAN. The Greenbook projects the core CPI to decline and then to come back up again.

CHAIRMAN GREENSPAN. Well, it has not come back up if you look through the month of May. That's the whole point. In other words, the backup is a forecast. I will try to document this at some length tomorrow. It is a very relevant issue and it is very important for us to answer the question of what in fact the inflation rate has been. The problem that we are running into here is that we are combining changing inflation with changing BLS procedures. I think that is creating a degree of skewness that we have to cut through.

MS. MINEHAN. For me the question is not even what inflation is in absolute terms. It is what the trend is and that is hard to understand.

CHAIRMAN GREENSPAN. I'll try to explain it tomorrow on the basis of the data we have put together. If we look at various broad measures of inflation including the core PCE chain price index, which is the best consumer price index by far as Roberts pointed out in his memo, it really makes a difference. Even looking at broader measures such as the gross domestic purchases chain price index, which picks up consumer prices plus everything else, that index has been going straight down into the current quarter with no evidence yet of a turn. Our view of what is happening to inflation is a critical issue here because it says a great deal about what is going on in the economy. It is very difficult to forecast the outlook for economic activity unless we have some sense of that pattern. The emphasis that we have been putting on the consumer price index, I think in retrospect, is turning out to have been a mistake. It has been a mistake in the sense that the CPI is biased not only with respect to the absolute amount of change--the 1/2 to 1-1/2 percentage point bias--but there is also increasing evidence that the bias is increasing. That suggests that the true measures of inflation are giving us a somewhat different picture, one that in a certain sense is ambiguous but, to the extent

that we can observe, one that indicates a slower rate of inflation. Now, that may be noise but that is the interpretation.

MS. MINEHAN. Thank you very much, Mr. Chairman. I have one other small question. Ted, on your Chart 7, Foreign Growth and U.S. Exports, is that merchandise exports alone or merchandise and services?

MR. TRUMAN. The top chart?

MS. MINEHAN. Yes, or any of those charts. Do they include services as well?

MR. TRUMAN. No, the top chart in the top panel includes just goods.

MS. MINEHAN. Are the rest of these just goods, too?

MR. TRUMAN. These are all goods in nominal terms.

MS. MINEHAN. It doesn't show on the charts on the next page or at least it doesn't show clearly as I understand this, but exports of services are growing more than exports of merchandise, are they not?

MR. TRUMAN. My memory would be that, for example this year, we have exports of merchandise growing 7 percent and exports of goods and services together growing 5 percent. Next year it is 11 and 9 percent.

MS. MINEHAN. So you have services pulling the overall rate of growth down?

MR. TRUMAN. Yes, services are pulling it down. Last year services in the GDP accounts grew only 1-1/2 percent over the four quarters. I hesitate to offer a firm opinion because this calculation may not have been done correctly. There were revisions and we tried to incorporate them in the historical GDP numbers. Whether the revisions got incorporated in the right way, I am not 100 percent confident. There was some double counting of services. I think that happened more on the import side than on the export side.

MS. MINEHAN. Is there any reason to assume that the growth of services in foreign trade is being skewed by the relative performance of trade with developing countries versus industrial countries?

MR. TRUMAN. Because you come from New England, you probably think that your region is providing a lot of services.

MS. MINEHAN. That don't get measured, yes.

MR. TRUMAN. That don't get measured in. I have the same bias, but I have not been able to convince anybody that the treatment is wrong.

MS. MINEHAN. We believe that, but maybe like a lot of the other things we believe, it isn't true.

CHAIRMAN GREENSPAN. President Hoenig.

MR. HOENIG. Mike, I have a question on the housing sector. We are seeing some quite good increases in the average price of houses in our area and some buying in the expectation of further increases. That may help to explain the run-up in mortgage rates. What do the data show more generally about housing prices? Are you seeing any of that in the data for the nation or is that just a local phenomenon?

MR. PRELL. If we look at the constant quality or repeat sales prices, there has been some pickup in house price inflation over the past year or so. This is uneven across the country. Your regional market may be experiencing some pressures that we wouldn't find elsewhere.

MR. HOENIG. Do you see it in terms of anticipatory buying more generally?

MR. PRELL. I don't recall that that stood out in any major way in the Michigan Survey, for example, where people are able to cite that kind of factor as a reason why they think this is a good time to buy a home.

CHAIRMAN GREENSPAN. Governor Meyer.

MR. MEYER. Mike, at the top of Chart 14 there is a red line labeled productivity trend. "Trend" tells us about slope and growth rate, but is there a level connotation here as well? Is that similar to what we would get if we were asking what the level of output is relative to potential?

MR. PRELL. We would take this as a reasonable representation of where productivity is relative to the trend and say that we are pretty close to trend growth, thus arguing against a big pickup or decline in the near term.

MR. MEYER. Do you measure separately an actual potential output gap as opposed to a labor market utilization gap?

MR. PRELL. We do have corresponding numbers.

MR. MEYER. And is it just an Okun's Law transformation or is it done separately?

MR. STOCKTON. It's not just an Okun's Law transformation. It is a little more complicated in the way it is estimated. But it is conceptually quite similar.

MR. MEYER. And what would it be showing right now?

MR. STOCKTON. It would show a slight excess demand at this point.

MR. PRELL. Yes, we are talking just several tenths of a percent, very much in line with our NAIRU.

MR. MEYER. You mentioned that you are discounting recent increases in average hourly earnings and, I take it, in the employment cost index measure of wage gains. Why?

MR. PRELL. For average hourly earnings, the charts that we look at are dramatic if we take the latest observation and think about it in terms of the 12-month change. We recognize that there was an odd reading a year earlier that will drop out when we get the next reading, and we would not be surprised to see the 12-month change move from 3.4 percent in the latest month back toward 3 percent. That would still be above the lows we saw a couple of years ago and it gives us a sense of an upward movement, but it would be more the kind of creeping movement that we would have anticipated, given price behavior and what we perceive to be the moderate size of the gap between unemployment and the NAIRU over this period. On the ECI, looking at the composition, looking at what happened in terms of sales workers and some of the unevenness in those figures, we think it likely that we are going to see some considerable slackening in the rate of increase in this wage measure in the second quarter.

CHAIRMAN GREENSPAN. Mike, did you get a confirmation on the chain-weighted average hourly earnings calculation? Has it come in?

MR. PRELL. I was told that we would be trying to get that, but I have not heard anything.

CHAIRMAN GREENSPAN. I think you ought to point out that the BLS does calculate a chain-weighted average hourly earnings index that endeavors to take out the inter-industry effects of approximately 300 to 400 industries. Unless that calculation is done inappropriately, it shows an actual diminution instead of an acceleration over the last 12 months on a year-over-year basis. That implies that there has been, if these calculations are correct, a significant shift in the composition toward higher-paid production worker industries--not occupations but industries--and this raises some interesting issues about what the trend in the raw average hourly earnings data shows over and above the year-over-year question in the May data. I assume that we will get a test on Friday as to whether that hypothesis is correct.

MR. PRELL. What we are anticipating might yield a considerable narrowing of the gap between the recent levels of those two measures. I guess I would characterize that chain-weighted measure as having moved pretty much in a sideways channel over the last year as opposed to an upward sloping channel. I still think the regular average hourly earnings series and the compensation per hour data from productivity and costs, which don't have fixed weights, can also yield some useful information about what is going on within the labor market that is relevant to thinking about pressures on prices. That is, a markup might be applied to this kind of compensation measure.

CHAIRMAN GREENSPAN. Doesn't that depend on the relationship between individual wages and individual productivity? The reason is that if there is a fixed relationship between any individual wage and the productivity level, then a change in wages will be associated with a comparable shift in productivity, and unit labor costs will be invariant to that shift. So, you really have to stipulate that the

relationship between marginal productivity and wages is different by groups and I don't know that we have the evidence for that.

MR. PRELL. Again, we have not explored this in great depth but the concern might be that, in the cyclical experience, one sees these changing weight measures as tending to accelerate, perhaps as an early signal of the broader pressures in the labor market. So, I think it's worth looking at all these measures, and certainly that chain-weighted measure does suggest there may be some complexity in this picture, which is worth some investigation.

CHAIRMAN GREENSPAN. That second-quarter ECI will certainly be a very interesting piece of information. It looks as though it is calculated unambiguously in an appropriate manner.

MR. PRELL. Well, there are a lot of definitional problems, and I suspect some firms that have to fill out that form are confronted with a real challenge in sorting through the instructions.

MR. MEYER. I have a question about the role of the stock market in the forecast. It seems to me that it has some important role in the slowdown scenario in two ways. One, am I correct that you have not passed through the full wealth effect of the stock market rise relative to what the models would suggest?

MR. PRELL. One can reach that conclusion. One has!
[Laughter]

MR. MEYER. As you know, I have done the same thing, so I can sympathize with that. You are leaning a little against the wealth effect relative to the historical regularity.

MR. PRELL. I think that's right.

MR. MEYER. Secondly, on top of that you have a mild stock market correction built in.

MR. PRELL. That's right.

MR. MEYER. How "mild" is the mild correction?

MR. PRELL. About 5 percent from where we were as of last night.

MR. MEYER. I would take it the source is twofold. To what extent does it depend on your judgment that the current market is high relative to fundamentals, and to what extent is it driven by expectations of an earnings slowdown?

MR. PRELL. On the latter point, it is not at all clear as we look at various reports of analysts' expectations that our profit forecast is really lower than what is anticipated in the market now. So, that leads me to characterize this expectation as being in essence some faith in gravity. We have a feeling that the market has been defying it to some extent recently. It's not that every current measure of aggregate valuation is outside of historical ranges by any means. But when we look at some of the internal aspects of the market -- the IPO craze and some of the other things going on -- and look at

that against a backdrop of some high valuation measures, it suggests to us that there is room for at least a moderate downturn.

MR. MEYER. I think gravity is underappreciated in economic forecasting!

MR. PRELL. Usually it doesn't work when you expect it to, either. So, the fact is that the market, as of last night, is significantly above where we thought it might be just a couple days before. In the last half year or so we have consistently had to raise our stock market forecast in the Greenbook.

CHAIRMAN GREENSPAN. Any further questions? If not, who would like to start the roundtable? Mr. Broaddus, go ahead.

MR. BROADDUS. Thank you, Mr. Chairman. I will try to keep this brief in the hope that you might give me one or two extra minutes when we come around to the discussion of our longer-term policy strategy. Really one or two minutes is all I want.

CHAIRMAN GREENSPAN. Will you take seven-eighths?

MR. BROADDUS. Let's negotiate! On balance, the anecdotal reports and surveys that we have been looking at for our District suggest a more rapid pace of expansion over the last several weeks. To mention a few of the high spots, commercial real estate activity seems to be almost uniformly robust throughout our region, and sales of both new and existing housing also are quite strong just about everywhere. There are a few pockets of resistance, but for the most part housing sales are strong. In the industrial sector, we focus a fair amount of attention on the shipments index from our regular monthly manufacturing survey. In May, that index was at its highest level since last spring. With respect to employment and labor market conditions, we have the impression that labor markets in the District have tightened further recently. We hear increasing reports of recruitment difficulties not only for skilled workers but for less skilled workers as well. That is a relatively new development. Finally, we have little that is new to report on pricing behavior in the District except that we were told by one chemical company in West Virginia that they finally were able to make a price increase stick for the first time in the last year and a half or so.

On the national economy, the June Greenbook forecast is not very much changed from the May forecast. It still shows real GDP growth dropping back promptly to trend as we move into the second half of the year. Although labor costs as indexed by the employment cost index drift up over the period, as was already pointed out this afternoon, the basic inflation rate is reasonably well contained at around 3 percent through the projection period. But even though the numbers in this forecast and those in the last forecast look roughly the same, I would argue that this is a much more optimistic projection. As has already been suggested, it seems to me that the upside risks in the projection are considerably more pronounced now than they were at the time of our last meeting. The Greenbook itself seemed to signal this shift at least implicitly. There is very little reference to downside risk in this Greenbook; there is a lot of reference to upside risk. For example, there is a reference to the surprising strength of job growth, housing activity, and consumer

spending. The point is made that we are now looking at the highest ratio of household net worth to disposable income in a couple of decades. There is reference to the fact that the manufacturing sector seems to be waking up finally, and there is a comment on the possibility of some inventory restocking going forward. For what it is worth, our own Bank's forecast is very close to the Board staff forecast, Mike. But the Bank forecast is based on the assumption that we will tighten policy a notch at this meeting. Without this tightening, we think that the Board's staff forecast is on the optimistic side. Thank you.

CHAIRMAN GREENSPAN. President Parry.

MR. PARRY. Mr. Chairman, recent economic growth has accelerated in California and to some extent in the remainder of the District. Job growth has remained strong in Oregon and has picked up further from already high rates in Nevada, Utah, and Idaho, leaving those four states the fastest growing in the nation. In several District states, job gains have been tilted toward higher-paying industries, and labor markets are tight enough to place substantial pressures on wages. For example, over the past 12 months average manufacturing wages have increased about 6 percent in Idaho and about 10 percent in Nevada. The stronger economic growth in California is evident in a wide variety of statistics: The unemployment rate is falling, and employment gains, income tax withholding, and consumer spending are picking up. Business firm formation and small business loan demand also have taken off, and even real estate values in the state's long depressed housing market are moving up, at least in the northern part of the state. Residential building has not yet responded to this pickup in profitability, so looking ahead we can see a further boost to growth in California from its construction sector.

For the national economy, the news since we met in May has caused us to revise up our forecast for the second quarter and for the year as a whole. A combination of stronger-than-expected demand in the first and second quarters and lean inventories in the first quarter have led us to raise our forecast for real GDP growth in 1996 to 2.9 percent from the 2.3 percent figure we had in May. We expect a slowing in the expansion next year to about 1-3/4 percent as a result of higher interest rates and more moderate growth in spending stemming from the accumulation of larger stocks of consumer durables, housing, and plant and equipment.

The forecast I have just given you is even stronger than it may appear to be because it incorporates a significant rise in the federal funds rate by early 1997. Although I do expect some slowing in growth next year, it would not be enough to prevent the economy from stretching beyond the full utilization of its resources. As a consequence, even with the tighter policy I have assumed, I believe that we face the substantial risk that underlying inflation, abstracting from oil prices and the like, is set on a gradual upward trend. I find this prospect alarming, and I certainly would like to see the inflation rate trending down.

So as not to confuse Mike Prell, I would like to note that the Humphrey-Hawkins forecast I sent last week assumed an even higher federal funds rate and showed a lower real GDP growth rate for 1997 than the forecast I have just discussed. I believe that such a policy

would be an appropriate response to the inflationary threat we are likely to face.

CHAIRMAN GREENSPAN. The one you have there is not the one you are forecasting?

MR. PARRY. That is not what I am forecasting, right.

CHAIRMAN GREENSPAN. President Moskow.

MR. MOSKOW. Thank you, Mr. Chairman. Like the Greenbook, we are close to the consensus forecast that sees real GDP growth moderating over the balance of 1996 and into 1997. We, too, see the risks on the up side.

Our forecast for auto and light truck sales this year and next is quite similar to that in the Greenbook, and that forecast implies some slowing in sales from the pace we have seen in the first half of 1996. We have not seen much slowing yet. Dealer orders remain quite strong. Reports from our contacts indicate that light vehicle sales in June were coming in near the average pace of 15.2 million units recorded in the first five months of this year. The final tally will depend on foreign-nameplate sales in the days around month-end.

Like the auto industry, other durable goods producers in our District generally have seen somewhat stronger-than-expected demand for their products in the first half of the year, and they have raised their forecasts for the year to reflect this. In most cases, however, they still expect sales to soften in the second half of 1996. For example, home appliance shipments rose to a record high in April, a record that was broken in May. The industry does not expect this strength to continue, however, and revised forecasts for 1996 are consistent with slower shipments in the second half. Other industries projecting weaker shipments in the second half include heavy duty trucks, construction equipment, and machine tools. We have already seen production cutbacks in heavy-duty trucks. The story for steel is a bit different because there is likely to be some inventory building even if demand slackens in the second half.

Reports from District retailers were mixed but generally consistent with some moderation in the growth of consumer spending in June. Inclement weather again was cited as a contributing factor. Our directors continue to express concern about increases in credit card delinquencies and personal bankruptcies.

The level of housing activity is still fairly strong in most parts of the Seventh District, but we are beginning to get reports that higher mortgage interest rates are having an impact. Contrary to the national data, permits in the Midwest declined more than starts in May. While weather was cited as a contributing factor, District realtors noted a definite slowing in contracts that were signed in May for sales of existing homes. These will show up as decreases in existing home sales over the next few months. But new home sales continue to be quite strong in some parts of the District, with shortages of homes in the mid-price range being reported.

Labor markets remain tight throughout the District. The unemployment rate in our states is still about a percentage point below the national average, but we continue to have very few reports of mounting wage pressures. Two weeks ago, I met with six chief executive officers of firms and banks based in Wisconsin, where the unemployment rate is now 3.6 percent. Only one of them expected an acceleration of wage increases, and that was for a specialized group of employees working on oil rigs in Louisiana. The other five CEOs expected wage and benefit increases for their employees to be about the same in 1996 as in 1995. On the other hand, we have had several recently signed labor contracts for building trade workers in Chicago that feature wage increases averaging 1 to 1-1/2 percent more per year than the contracts that they replaced. As I mentioned at the last meeting, wage increases in the steel industry will be higher than those in the contracts they are replacing, and that is now in binding arbitration. There also is a definite trend to longer-term collective bargaining agreements, with a number of four-year contracts replacing three-year contracts.

who comes from

believes that this is an indication that workers are less concerned about inflation now.

On the price front, most reports seem to point to little upward pressure on prices. Energy prices in the District are expected to continue moderating as supplies of natural gas accumulate. Competitive pressures also are keeping District businesses from raising prices, particularly in retailing. However, the steel price increase announced for July is expected to stick, as there is very little excess capacity in the steel industry and the order books are full through the third quarter. In agriculture, corn stocks obviously remain critically low. Record-high prices have not generated the cuts in usage needed to stretch available supplies through to the new crop harvest. Pressure on corn prices probably will not ease soon especially if, as seems increasingly likely, temporary shortages occur in the summer prior to harvest.

In summary, the Seventh District economy continues to expand, with the pace of growth expected to moderate as we move into the second half of the year. Price pressures generally seem contained, although some recent labor contracts have included higher wage increases than the agreements they replaced.

CHAIRMAN GREENSPAN. President Minehan.

MS. MINEHAN. Mr. Chairman, the New England economy continues to chug along, though I am struck by the moderate nature of the data versus some of the heat we sense in the economy from the anecdotal reports of our outside contacts and groups that visit the Bank. My comments will be based both on the data from the region and what we have been hearing anecdotally.

The pace of job growth is fairly modest overall in New England. The unemployment rate remains below the national average. Initial unemployment claims are at low levels, and labor force growth recently has begun to pick up. Most of the growth in employment continues to be in services, especially business services and health care. Within business services, temporary help agencies are doing very well. Demand for workers in information technology fields is especially high, as I have said before, and there is talk of importing

labor, particularly telecommunications specialists, from other regions of the country and of the inability of some money management firms to find even back office staff. We have noted that the nature of the workplace is changing. One of our manufacturing contacts, who makes machine tools for the auto industry, currently has 100 to 150 engineers working on a temporary basis. These people will be let go as the engineering phase of the project is completed, and he will then hire temporary production workers in their place. There is a lot of change going on in how employers are hiring even in skilled occupations.

Although manufacturing employment in New England continues to drift downward, the rate of decline has slowed, and the high-tech area seems to be stabilizing at last. Employment in computer and office equipment manufacturing has picked up over the first half of the year after a very long period of decline. Even the cutbacks in defense spending seem to be coming to an end. Layoffs are still ahead in Connecticut at Electric Boat, but defense contractors in both New Hampshire and Vermont are planning to add workers because of new contracts. The anecdotal evidence from the manufacturing sector is generally positive. Materials prices have moved around a bit but are not rising overall. Selling prices are up very slightly, but people continue to say that it is very hard to raise prices. Inventories are generally at satisfactory levels, though companies continue to find ways of bringing them down, often through innovative technologies. A couple of manufacturing contacts commented on the prospect of lower electricity prices arising from deregulation of the industry. Deregulation of electricity could have some fairly significant but difficult-to-anticipate consequences, particularly for the New England economy where electricity prices are unusually high.

The retail picture in New England remains difficult to assess because retail competition is so fierce. Some companies are doing well, but others are experiencing sales declines and even bankruptcy because of new entries into the market. Retail inventories seem to be in pretty good shape and price increases, if any, are very moderate. Our real estate contacts report mixed signals in recent months after a very strong first quarter. However, housing activity is quite high in eastern Massachusetts, with both existing and new homes moving well. For example, last Sunday's Boston Globe had a front page story that began as follows: "Housing inventory has been drastically reduced in the suburbs and cut in half in the city over the past 12 months. Demand is astonishingly high, and properties are selling within days of coming on the market." That news item was basically residentially oriented, but the commercial real estate market in the greater Boston area is also quite healthy. Brokers report that building prices in suburban Boston are back to their peak of the late 1980s, although prices downtown still have some distance to go. The Providence market is improving and commercial space is reported to be fully occupied even in Springfield. Now, if we could just do something about Hartford and New Haven, the First District as a whole would be back to high-occupancy levels.

Growth in bank lending remains below that of the nation, in part because of balance sheet restructuring efforts on the part of newly merged large banks. However, reports of keen competition continue. The senior lending officer for a large nationwide insurance company told me that he has almost never seen such an availability of

capital. From venture capital, mezzanine financing, to commercial loans and mortgage lending, according to him almost any project can get financed. He and others believe that the IPO market in particular has gotten frothy of late.

On the national scene, we agree with the Greenbook that the risks seem even more heavily weighted to the up side, especially for the near term. We see fairly strong second and third quarters, with moderation after that. But the resulting rise in inflation that we see is somewhat larger than in the Greenbook even in the face of some increase in interest rates, which we have factored into our baseline. Moreover, when we look at the tighter federal funds scenario that the Greenbook assumes, we see higher inflation, lower unemployment, and a better growth path than is presented in the Greenbook numbers. Thus, we might see both a greater need and a greater ability to tighten policy than is reflected in the Greenbook.

CHAIRMAN GREENSPAN. President Boehne.

MR. BOEHNE. Thank you, Mr. Chairman. The Philadelphia District economy is growing at a moderate pace, and virtually all sectors are sharing in the growth. That is an improvement over conditions last year and early this year. Still, the region lags the performance of the nation, and that is not likely to change in the foreseeable future. Wage and price pressures appear to be contained. Although labor markets have tightened some, there is no obvious acceleration in wage gains. Raising prices also seems to be difficult because of competitive pressures.

The national economy continues to perform at levels that should generate accelerating price pressures, judging from past experience. Yet, there are few signs of accelerating movements in core prices. Perhaps there will be more signs and perhaps there won't. I think we need to be watchful. Some moderation in the pace of real economic growth is likely during the second half of 1996 and into 1997. The increase in longer-term interest rates almost surely will damp interest-sensitive expenditures. Consumption spending generally will likely grow more in line with disposable income and debt levels. Growth in business fixed investment is already moderating. Increases in government spending also should moderate. Only inventory investment looks notably stronger for the second half. So, all in all, the economy is not likely to break away on the up side. Nonetheless, I think we need to be watchful here as well.

CHAIRMAN GREENSPAN. President Hoenig.

MR. HOENIG. Mr. Chairman, the economy in our District continues to grow at a relatively strong pace, with gains spread broadly across most of our industries. Manufacturing and construction remain major sources of strength in our region. Factory jobs in the District rose again in April, and industry contacts indicate that production schedules remain strong. In addition, our directors report brisk activity in construction, although slightly less than earlier in the year. Retail sales also continue to improve across the District. While retailers and automobile dealers report modest sales gains, most expect sales to strengthen further during the remainder of this summer. Energy activity continues to strengthen in our District despite somewhat weaker crude oil and natural gas prices. Drilling

activity increased in May for the fourth consecutive month and is up noticeably over a year ago. The agricultural area remains weak both in the cattle industry and with crops where prices are good but some of our producers got about half a crop at most, some none.

While economic activity is generally solid across the District, we have seen signs of very modest price pressures in the retail sales area. However, there continue to be strong indications of tight labor markets. With regard to the anecdotal information, a major distributor of housewares headquartered in our region indicated that there actually has been a small decrease in the prices of the products that they purchase for sale across the United States, perhaps in the neighborhood of 1 percent, in contrast to consistent 2 percent increases in the last several years. However, their wage costs are rising. The average increase this year will be in the 4 percent range for new entrants, 6 percent for those in the training or the sales areas, and even higher for other workers. So, they are experiencing differing pressures in their costs of doing business.

On the national level, I am broadly in agreement with the Greenbook and look for second-quarter growth of 3-1/2 to 4 percent, with growth moderating toward 2-1/4 percent near the end of the year. Looking into next year and assuming current interest rates, I would expect growth to remain slightly above potential. Like the Greenbook, I believe the risks are largely on the up side. Virtually all sectors look solid. While we would expect higher long-term interest rates to temper demand, it is possible that interest-sensitive sectors of the economy may be more resilient to higher rates than we formerly believed. Thank you.

CHAIRMAN GREENSPAN. President McTeer.

MR. MCTEER. The Eleventh District economy is doing very well. Employment grew at a rate of about 4 percent in April and May, and most observers do not expect much slowdown in the second half. For reference, our long-term employment growth trend is around 3 percent. On the negative side, the mantra in Texas is still "eat beef and pray for rain." The drought continues and it is as bad as it has ever been. It has not been as prolonged as yet, so we do not hear quite as much about it. Willie Nelson's Fourth of July party in Luckenbach is dedicated to raising money for rain-starved ranchers and farmers. He is not worried much about the ag bankers as yet! [Laughter] Neither are our supervision people; we had a talk about that. The condition of the ag banks is pretty good and crop insurance is very prevalent, so that will ease the situation. The effect of the drought on Texas agriculture is estimated at \$2.4 billion or about .5 percent of gross state product. Last year the ag sector represented 1.8 percent of gross state product and 1.3 percent of employment. Just for comparison, in 1940 agriculture represented 30 percent of Texas employment.

Cow chips have been replaced by computer chips in the Texas economy. [Laughter] The semiconductor industry has rebounded somewhat from a disappointing performance earlier in the year. The construction of several new wafer fabrication plants is being slowed down or put on hold, but other similar projects are moving full speed ahead. Computer chips have replaced the oil and the real estate business as the source of Texas excess. spent more

than \$1 million on the groundbreaking party the other day for its new chip factory Indicators of the District's high-tech sector have picked up recently. The book-to-bill ratio has increased for three months in a row, to .84 in May, but was still below the year-ago level of 1.18. After I wrote that, I read an article in the Dallas Morning News by the number two person at Texas Instruments who argued that the book-to-bill ratio is worthless as an indicator. So you can strike that!

The energy sector has been doing better lately, and not so much because of higher prices. Past downsizing and improved drilling technologies that have reduced the number of dry holes being drilled are improving profitability. Five years ago when I went to Texas, it was thought that \$25 to \$27 oil was necessary for drilling in new fields. Now it is felt that such drilling can be profitable in the \$18 to \$19 range. Drilling in the Gulf of Mexico has been constrained recently by a shortage of rigs.

The rebound in the Mexican economy, which has been going on for a year now, is being increasingly felt in the Texas economy. Southbound train and truck traffic is up more than 50 percent from last year's lows. Retail sales to Mexican citizens have improved noticeably in our border towns and in Houston. Our indexes of leading indicators, for both Mexico and Texas, are signaling continued growth in the coming months. The Mexican rebound will likely get a lot more attention in the press in about a month when the second-quarter results are in. That GDP number will be contrasted to the second quarter of 1995, which was the bottom of their recession, and it is likely to be a very large positive number. Of course, the Achilles heel of the Mexican economy is the dire banking situation.

The national economy has continued to strengthen since our last meeting. We in Dallas believe that the real GDP number in the second quarter will be more than 4 percent--possibly 5 percent--rather than just under 4 percent. The growth in employment has continued to surprise us on the up side. The implications for inflation, however, are not that clear to me, although the risks certainly have increased on the up side and are clearly asymmetric. But on the comforting side, much of the increase in consumer inflation so far this year has been in energy, which should ease during the remainder of the year. Commodity and metals prices peaked some time ago, and gold is now near its 12-month low. Thank you, Mr. Chairman.

CHAIRMAN GREENSPAN. President Guynn.

MR. GUYNN. Thank you, Mr. Chairman. The Southeast economy continues to grow moderately, slightly outperforming the nation by almost all measures. Georgia and Florida particularly are doing extremely well. Although much of that can be attributed to the Olympics, the District would still be performing quite well even without the Olympics. There are a few imbalances and those that exist are not surprising. Tourism throughout our Southeast region would have to be characterized as spectacular, as it should be going into the Olympics. Florida tourism is having a record year. Manufacturing activity is steady. Employment and orders were up just a little in recent months. Apparel remains weak. Alabama, Tennessee, and Georgia have lost almost one-third of their apparel manufacturing employment over the last four years. That loss is occurring in regions where the

new southern automobile industry is moving in, and it is a perfect example of the mismatch between the qualifications of many of the jobless who are leaving the apparel industry and the qualifications needed for the new jobs in the automobile industry. Single-family housing activity generally remains good, with inventory shortages of single-family homes reported in some of our areas. Multifamily occupancy remains quite high and building of such units continues. Commercial real estate activity is strong except for the retailing sector. Labor shortages and wage pressures now exist in several markets in low-skilled and unskilled positions, primarily in retailing and construction. But it is our sense that those should abate as we get past the Olympics and as housing and other construction slows as we expect.

There is a lot of discussion and we get a lot of questions about the economic impact of the Olympics. Our judgment is that the macro impact will be quite small. Only foreign tourists who would not otherwise have come to the United States will make a net contribution to GDP. Everything else is a substitution or a change in timing and by that I mean the building of facilities a little early to have them open in time for the Olympics. Our best guess is that total construction that would not have occurred were it not for the Olympics totals less than \$1/4 billion. Also, our best guess on the employment gains that can be expected during the Olympics is that 60,000 to 70,000 jobs will be added at the peak. That peak falls between two employment survey periods. Our guess is that the July survey will pick up about 40,000 of those Olympic jobs and most will be gone by the August survey. Our sense from talking to people in the community is that many of those jobs are second jobs or retirees who are coming out of retirement just for a few weeks and have no intention of staying in the workforce. Our best estimates are that the gains will contribute about \$5 to \$6 billion to the District over five years, the bulk of that coming about now. So, on a regional basis it certainly is a big deal.

As far as the near-term outlook for the national economy is concerned, the Atlanta forecast and that in the Greenbook are almost indistinguishable. Both see a spurt in activity in the second quarter; both show a slowing in the second half of the year based on expectations of a deceleration or outright decline in housing activity combined with the already observed moderation in the growth of business fixed investment. Each forecast also shows the CPI at about 3 percent and little change in the unemployment rate. Notwithstanding these similarities, we have a somewhat different interpretation of recent events. I contrast our outlook with the Greenbook's not by disputing that demand is relatively strong but by noting that recent history shows that increases in demand and increases in relative prices that accompany it very quickly elicit increases in supply, which sharply reduce upward price pressures. If we have learned anything from the last five years of expansion, it is that a focus on demand to the exclusion of supply and competitive pressures may not tell the whole story. Importantly, the change in the dynamics of demand and supply relationships makes traditional measures of potential price pressures, such as capacity utilization and the unemployment rate, less reliable in our view than in the past. Against this broad framework, we do not believe that we have already accommodated an increase in demand. Consequently, common observations about the strength in current and prospective activity lead me to

temper my interpretations of at least overall price pressures beyond the forecast horizon. Thank you, Mr. Chairman.

CHAIRMAN GREENSPAN. President Melzer.

MR. MELZER. Thanks, Alan. The pace of economic activity in the Eighth District continues to pick up from the more sluggish levels I mentioned earlier in the year. District retailers and auto dealers report sales at or above last year's levels, and most contacts are optimistic about sales prospects over the summer, though there is some concern about consumer debt levels. District payroll employment grew at an annual rate of 2.2 percent for the three months ended in April, slightly below the national rate. Nonetheless, unemployment rates in the District remain below the national average. The District labor market appears tight. Some businesses are coping with a shortage of entry-level workers--for example, in the fast food area--by offering starting bonuses and wages well above the minimum wage. Poultry producers in parts of the District continue to attract workers from Mexico. There also are growing wage pressures for skilled workers. Computer-literate workers in a variety of occupations are in short supply. There is also some restiveness on the part of organized labor. The strike at McDonnell Douglas by about 6,700 union machinists, which began on June 5, continues though negotiations were restarted last week with the involvement of a mediator. The proposed four-year contract--and this is what was originally on the table before the strike--includes a cost-of-living adjustment plus a 2-1/2 percent increase in base salaries during the first year of the contract and 2-1/2 to 3 percent bonus increases during the remainder of the contract. So, that contract works out to an annual increase in the range of 5 to 6 percent. That Boeing and other companies have been actively wooing striking McDonnell Douglas machinists to leave St. Louis is another indication that the market for machinists is tight. Whether tight labor markets get reflected further in rising wages and prices remains to be seen, although I suspect they will.

District auto output has been unusually strong, and auto makers in the District expect production to be up about 16-1/2 percent in the third quarter over a year earlier. There has been a substantial increase in the capacity to produce popular models. Nationally, light trucks and autos are selling at a pace unmatched since 1988. A surge in automotive output in the second quarter to meet consumer demand and rebuild inventories is expected to increase real GDP growth by more than a percentage point at an annual rate. With respect to inventories generally, the main National Federation of Independent Businesses survey suggests that about one-fifth of District firms want to add to stocks while a slightly smaller fraction of District firms want to reduce them. Residential building permits picked up substantially in April in most District metropolitan areas, though builders still expect a slowdown because of recent increases in mortgage rates. Loan growth at District banks continues slightly faster than in the nation. Finally, crop conditions are better than was expected earlier.

With respect to the national economic outlook, we are forecasting continued real growth at essentially the average growth rate of the past ten years in terms of the new chain-weighted measures. We are forecasting real growth of about 2-1/2 to 2-3/4 percent this year and 2 to 3 percent in 1997. We have the

unemployment rate holding in the range of 5-1/2 to 6 percent. We do not see a recession over the next year and a half, although I am aware that forecasters generally are not able to tell a boom from a bust 12 months hence. Our CPI forecast is for 3 to 3-1/2 percent inflation in 1996, up from 2.7 percent in 1995. However, assuming that policy moves aggressively toward restraint during the remainder of this year, we believe inflation could move down to the 2 to 3 percent range in 1997. The slowing in inflation that we forecast will not occur if the current inflation gets embedded in expectations, which we see as a growing risk given the accommodative stance of monetary policy.

One final comment with respect to the forecast: I am concerned about how these forecasts may be interpreted. We are asked to prepare forecasts based on what we think an appropriate policy stance would be, although the policy assumptions themselves are not published with the forecast or for that matter even requested. If the FOMC consensus happened to be identical to the St. Louis forecast of lower inflation in 1997, would the interpretation by the public be that nothing more needs to be done to contain inflation? There is the dilemma. On the one hand, if we forecast accelerating inflation assuming no change in the stance of policy, we may make it easier to take appropriate actions to contain it. On the other hand, if we forecast decelerating inflation predicated on a tightening of policy, we may make it more difficult in fact to take the necessary actions. Either way our credibility could be damaged. I think we should make it clear in publishing our forecasts that the outcomes are not independent of policy actions and may in fact presume some tightening actions. Having said that, our forecasts of variables that we can influence, namely inflation in future years, are important to markets. We ought to use every opportunity to forecast lower inflation in the years ahead and do our best to make such an outcome a reality.

CHAIRMAN GREENSPAN. President Stern.

MR. STERN. Thank you, Mr. Chairman. The regional economy continues to do well. Most sectors are healthy. Construction in particular is strong, housing is very strong, and home prices are rising significantly. Those conditions have prevailed for quite some time now, and I won't elaborate. Exceptions to this generally favorable set of conditions are weather-related problems adversely affecting tourism and agriculture. The cattle industry continues, of course, to have serious difficulties.

I have commented on this before but I think it is worth mentioning again that labor is scarce in the District. There seems to be a shortage, especially of entry-level workers, and we see signs of wage pressures at that level. When we talk to some people about that, the attitude seems to be that, of course, the entry-level labor force is mostly young and inexperienced, very mobile. These people are anxious to get some training but they do not care at all about the benefits that might go with the job. So once they get the training or if they get an offer of somewhat higher earnings across the street or across the city, they will move on. More experienced workers seem to be a good deal less mobile. They put a higher value on benefits, and they are concerned about the obsolescence of their skills.
labor leader

At a meeting that he attended a couple of weeks ago, he was using a lot of language like "labor isn't very comfortable,"

"labor isn't very confident," and so on. I did not have the sense that he was choosing his words that carefully just to influence us. I think what he was saying is an accurate reflection of attitudes in a fairly well organized, fairly highly skilled labor force.

As far as the national economy is concerned, my view of current conditions is that they are too good to last. Relative to our expectations of late last year and early this year, the economy certainly has done better, perhaps considerably better, than individual Committee members expected. The Greenbook forecast has aggregate demand slowing just perfectly to the trend growth of aggregate supply. We achieve equilibrium and in some sense we ought to close up shop! My experience tells me that such a very smooth adjustment is highly unlikely and that may be putting the best face on it. Things are unlikely to work out that favorably. I do expect that aggregate demand will slow, but not so much and not so rapidly as in the Greenbook, in part because I think the expansion has a good deal of momentum right now and in part because I do not see any corroborating evidence at the moment that such slowing is in train. This leads me to the conclusion that sooner or later the growth of the economy will strain capacity, and so I am concerned about prospective inflationary pressures.

CHAIRMAN GREENSPAN. Vice Chairman.

VICE CHAIRMAN McDONOUGH. Mr. Chairman, for the last three years I have been reporting on the economy of the Second District in rather dismal terms, and I am now changing from a minor to a major key. The Second District economy has been accelerating in recent weeks and the reason is that the District is amazingly dependent both economically and, perhaps more important, psychologically on what is happening in the New York metropolitan area. Economic conditions there seem to be very much on an upbeat. Payroll employment rose at a rapid clip in May in the District following a pause in April. New York State added 16,700 jobs; that is an annualized gain of 2.6 percent. The unemployment rate held steady at 6.4 percent. In New Jersey, employment expanded 2.3 percent with 6,800 jobs and the unemployment rate fell to 6.1 percent, which is a five-year low. The job growth was, not surprisingly, dominated by gains in business and consumer services. Manufacturing continues to decline in the District. The real estate industry is beginning to pick up. But as I said earlier, I think the biggest change is happening in the "feel" of New York City. Some changes are in the purely economic area and some are not. The City is absolutely booming with tourists. That is helped a great deal by the fact that it feels a lot safer, and that feeling is not unrelated to a different approach to policing. The police also have been perhaps brilliant, perhaps lucky, perhaps some of each, in solving some very difficult and problematic serial crimes. The teachers of the City of New York, about 110,000 in number, who had turned down their labor contract late last year, have now approved it, even though there are no pay increases in the first two years. The New York City partnership, which has had a spectacular success in promoting lower-level and middle-level housing in the city over recent years, has announced the creation of what is essentially a start-up venture capital fund of \$50 million, and the rather brilliant lady executive who was head of the housing partnership is going to move over to run that. Perhaps equally important, the Yankees are having a

great season and last night they scored their second run on a squeeze bunt, which is the baseball equivalent of "chutzpah." The good feeling from New York City seems to be moving out into northern New Jersey and the rest of New York State, and the District as a whole is doing very well.

On the national level, our forecast for the rest of this year is virtually equivalent to that of the Greenbook. For 1997, we have some difference of opinion. It is largely related to my question to Mike Prell concerning what is going to happen to productivity since it has not been showing all the improvement that we have been waiting for. My colleagues in New York are inclined to think that it could go in the opposite direction, which would give us weaker growth next year. We also have inflation ticking up as the Greenbook does to 3.0 percent next year. Our views are based on models that all of us have to use and that have the quality of thinking that past events are likely to be repeated in the future. Intellectually, I think that is probably very sound. However, I am having great difficulty trying to reconcile my intuition and my mind.

That may be because of my strong reaction to what I think is a very unfortunate debate going on in the country with those who consider price stability as somehow antagonistic to growth. The higher the growth, the more we have to worry about price stability in that view. Some of us unfortunately have contributed to that debate. At the same time, what my intuition is telling me is that, rather like the comments the Chairman made in response to a question by President Minehan, there may in fact be developments on the cost side, on the wage side, and therefore in the future on the price side that we do not fully understand. I think it probably would not be a very good idea for us to move policy at a time when the outlook for what we are uniquely responsible for, which is price stability, is questionable both intellectually and practically. So, I think we must busy ourselves between now and the next meeting with trying to understand as best we can what if anything new is happening, as you suggested in your remarks, Mr. Chairman. I know that you are planning to go into that more fully tomorrow, and I look forward to hearing your comments. Thank you.

CHAIRMAN GREENSPAN. President Jordan.

MR. JORDAN. I will begin by saying that we seem to have "weathered" another price scare in agriculture. At the May meeting, I reported on the wet conditions that were panicking the farmers in our area. Many had sold crops that they had not yet planted, and because of the adverse weather conditions the day was getting very close when it would be too late in the season for them to plant a crop. This was going to be a very big problem. In fact, there is an article in today's Wall Street Journal about some of the problems stemming from that. However, our farmers got a window of a few dry days, as we are prone to get every year in our region. Because of "no till" farming, they are now able to get a crop in the ground in a few days that literally would have taken weeks before. This raises some interesting questions about measuring productivity in agriculture. What we would compare is a crop that was planted under old technology with one that was planted under new technology to see how much less labor was used. But how do we take into account crops that simply would not have been planted under old technology because it was too late in the season to

do so? In any event, we are going to have a good agricultural year in our region even though our productivity figures are not going to show the real benefits of the new technology.

At the March and May meetings, we were worried that the rise in energy and food prices would become more generalized throughout the economy and would therefore set a tone of broadly escalating rates of inflation. It now seems that this has been another episode like last year's paper price scare when the concern was that we were going to have shortages of paper forever. That fear has now vanished. Before that it was metals. Last year we also had to worry about Class 8 trucks being produced at unsustainable levels well above capacity, but now the production levels are down 25 percent from a year ago. At one point we worried about escalating prices of lumber and other building materials as being the acorn that could grow into a generalized inflation. One after another, these concerns have popped up and have gone away. In line with Jack Guynn's remarks, I think that these are good reminders that generalized price inflation is not caused by isolated events. As long as we keep an effective lid on the growth of aggregate demand, these price changes, up and down, are critical really to the efficient performance of the economy.

I want to comment about the productivity issue. Bill McDonough raised some questions about the labor productivity chart in the Chart Show and Larry Meyer also made reference to it. When we look at a chart like that, we know that for a growing share of the economy there is no improvement in labor productivity because we measure the output in those parts of the economy by labor inputs and we define the latter as not having any productivity growth. So, there is both a cyclical dimension and a secular dimension to that chart. The cyclical relates to periods when there is a pickup in economic activity that tends to be concentrated in sectors of the economy, notably in manufacturing where, according to the data that we use, the proportion of labor having high productivity growth rises relative to labor defined as having no productivity improvement. In such a period we would expect to see an increase in overall productivity and vice versa in a cyclical downturn. But in the secular sense, we are moving increasingly toward a situation where labor productivity in that chart will have no growth at all. If we define 99 percent of the economy as involving industries where there is no labor productivity growth, then the economy's overall productivity growth has to approach zero. So, instead of saying that productivity has been stuck at 1 percent or 1.1 percent or whatever the number is, the question should be, why hasn't it gone down?

The anecdotal reports at the micro level tell us that productivity is booming, especially in manufacturing where productivity gains of 4 or 5 percent or sometimes even 6 or 7 percent are mentioned. In order not to have one iota of improvement in productivity at the macro level, as somebody was quoted as saying, we have to have at least a sharp slowing in productivity growth in nonmanufacturing sectors of the economy if not an absolute decline. Then the question becomes, is that credible given what is going on in the world today? Statistically, we know how it is happening. We know that total factor productivity is measured as declining in such sectors as financial services, because output is falling or there is less labor employed with more nonlabor factors. As a result we have negative total factor productivity. We add that to manufacturing

which has big productivity gains, and there it is, 1 percent productivity growth again! But that is really masking the dynamics of what is going on in the economy. We all know that at the micro level improved productivity means less inflationary pressure, but then somehow we get caught up in this loop that says increased productivity gets added together with labor. This means more output and that somehow causes inflation. That does not compute.

As we go around the Fourth District asking questions about plans for price increases, the disconnect in the responses that we get is certainly interesting and I suspect a lot of business people think the same way as our contacts. When we ask them what their pricing plans are for their products over the next five years, they say they are going to try to maintain their prices or reduce them as slowly as possible. We do not hear anybody talking about raising prices. The question for these people is whether they can assume that their prices will stay the same or how much they think they may have to cut them. Then we ask them, what is their inflation forecast? They will usually give a number like 3 percent. When we ask why, they say that is the CPI rate of inflation. When we probe into this, we find it mainly means that that is what they think is going to happen to their labor costs. Then we ask, how does this work? If you are not going to increase the prices of your products and your wages are going to go up 3 percent on average, how do you do it? Then they tell us productivity stories. It is interesting in an ironic way that, for a lot of the economy, the more efficient the sector, the less productive it is estimated to be, if we can figure out what that means.

We also ask people a lot of questions about what they worry about. The frequency with which companies talk about financial stresses is interesting. Generally, we hear comments from bankers and nonbankers alike who are worried about declining credit quality, slowing collections of receivables, and rising delinquencies and late payments. Such comments are more frequent than Mike's charts would suggest or than the national data show. Companies tell us that they were surprised at how good the first half was but also that their free cash flow is falling. So something is not quite right. In the second half of this year, if the Greenbook forecast is correct, we will have to be alert to the debt service burdens, which will be a growing problem because those Greenbook numbers imply that revenue and sales growth will be a lot slower. We are going to see squeezes on earnings, as most firms expect and the national projections suggest. We will hear more stories about the cost of carrying the inventory that apparently is being built up, and people are going to say that their financing is getting more burdensome. So, I think that six months from now we may be quite concerned about more financial stresses in the economy than seem to exist today.

Let me also comment about the labor markets. There is good news/bad news in the Bluebooks. I went back over the last six years of these semiannual projection exercises, at the beginning of the year and in July, that look out five years. The good news is that the staff keeps notching down the unemployment rates associated with a given inflation path and the inflation path has not been notched up. If anything, it is down slightly over those semiannual intervals. I try to imagine what we will be looking at when we come back in January or February for the next semiannual review. Currently and for the last year, all but four of the large eleven states for which we have

the data have unemployment rates that are well below the 5-3/4 percent staff estimate of the NAIRU. Three of the four other states, as we heard this afternoon, have experienced rapid growth in employment: California, Texas and New York. Bill McDonough mentioned that unemployment fell to a five-year low in the fourth state, New Jersey. The unemployment rate for the other seven states is below 5 percent. What is going to happen? If employment continues to grow as rapidly as people anticipate and the unemployment rate moves down in some other states, especially those that produce motor vehicles--Mike Moskow mentioned Wisconsin and we know that very low unemployment rates already exist in Kentucky and Tennessee--will we talk six months from now about 5 percent unemployment and yet lower inflation? I hope so.

CHAIRMAN GREENSPAN. Governor Lindsey.

MR. LINDSEY. I think these semiannual meetings are best used to assess whether there are any major trends that have surprised us. There are two that have surprised me: consumer debt and public policy. I will restrict my comments to consumer debt.

I think the consumer situation is best summed up by the old labor ballad about "another day older and deeper in debt." The ballad concludes with the phrase, "I owe my soul to the company store." Of course, the song was written in a less enlightened time than the present one. Today the singer would simply declare bankruptcy! [Laughter] The reason all this is a surprise to me is that 18 months ago I thought the consumer would have cut back spending by now either out of voluntary recognition of the family financial situation or because creditors would have stopped extending additional credit. Neither has occurred. In fact, it is now obvious that credit extensions continue to mushroom in at least some areas. Credit is much easier to get than it was 18 months ago. Revolving credit increased \$75 billion in the 12 months ended in April according to our latest statistical release. That is a 20.5 percent annual increase. Auto credit increased only 10 percent and total consumer credit was up 13 percent. Our 1995 Survey of Consumer Finances, when adjusted to match flow of funds data to overall household debt, shows that roughly one household in six now pays 40 percent or more of its income in debt-service payments.

This is showing up in consumer delinquency rates. In the first quarter, just under 3 percent of all auto loans at finance companies were 30 or more days delinquent. In 1991 when the unemployment rate was 6.8 percent, which was the previous peak, the delinquency rate was 2.65 percent. Credit card delinquencies at commercial banks were 3.49 percent in the first quarter of this year and they were 3.21 percent at the previous peak in 1991. Interestingly, the Survey of Consumer Finance shows that the usual signs of economic distress were not the cause. The proportion of consumers with debt payments exceeding 40 percent of income who reported either unemployment during the survey year or unusually low income for the year was actually lower in 1995 than in 1992. That may help explain why the new computerized underwriting procedures continue to extend ever more credit even as debt levels grow. The traditional warning flags simply are not present for the great majority of people who are taking on new debt.

Anecdotally, lenders invariably cite "competitive pressures" as the reason for granting ever more and ever riskier credit. I called up the American Automotive Manufacturers Association (AAMA) to get some feel for their view on credit. The average term for their members in extending credit is between 52 and 57 months. The standard offer now is 60 months, although one of the captive auto finance companies is now offering a 72-month loan on minivans. The reason they gave for extending the maturity on such loans was competitive pressure from the banks. My colleagues on the Board might chuckle since the members of TIAC, who were here last week, were saying that they were now offering 72-month loans and even some 84-month loans. The reason given was competitive pressure from the auto finance companies! When I hear about an 84-month auto loan, I know that the credit merry-go-round has not stopped and it is probably picking up speed. But I do not think that is the whole story. The AAMA reported their captive members are now financing only 15 percent of their total sales.

Fully 30 percent of sales--I guess we call them sales--are now leases. In addition, that 30 percent tends to be heavily weighted toward higher-priced cars. The economics of the auto leasing industry is interesting. From the point of view of consumer debt, it should make our view of the household situation even more troubling. Auto leases are not in the debt numbers or in the debt-service numbers. But in fact, they are really the worst type of debt service since there is absolutely no equity buildup in the payment. I have gotten deeper into this area than I ever dreamed, thanks to our current work on Regulation M. Those efforts have indicated to me that we actually face another macroeconomic problem from leasing, which I thought it was important to share. The auto companies currently are tending to offer high residual-value option prices on their cars. They know this will mean that fewer consumers will end up buying the leased vehicle when the lease is up. The reason for this practice is that it tends to make the lease more attractive to current buyers because it lowers the monthly payment. And given the high sticker price of autos, this is viewed as a necessary sales incentive. The auto companies are willing to do this because they are making an implicit bet on the ability of their cars to hold up in value for longer periods. Now, this is not an altogether bad bet. Auto quality and durability are up. But higher prices in the future for used cars depend in part on prospectively higher new car prices. For this to work, new car prices must therefore continue to rise faster than family incomes, making them ever less affordable and requiring continuing innovation in the financing areas in order to keep sales up. The auto companies are now recognizing, or at least their finance divisions are now recognizing, that they are on a credit-based merry-go-round of their making that must eventually stop. But at the present time, none of them can afford to get off.

Future credit problems also are apparent in the trend in home mortgage financing. According to the Federal Housing Finance Board, 45 percent of all mortgage loans granted in May had loan-to-value ratios (LTVs) in excess of 80 percent. Some 26 percent had LTVs in excess of 90 percent. The average LTV on all 30-year fixed, non-jumbo loans was over 82 percent. Also, it is not the S&Ls, the traditional and well-qualified source of mortgage funds, that are making the bulk of these loans. Mortgage companies and commercial banks had 28 percent of their originations in over 90 percent loan-to-value

mortgages versus just 18 percent for the S&Ls. Now, from my experience at Neighborhood Reinvestment and from the studies done here at the Board, it is clear that high LTVs are a big risk for future delinquency. No one purchases a home expecting to default, but when economic distress occurs, individuals with no equity in their homes have less incentive to stay than those who have such equity. Our experience shows these high LTV loans can be successfully and profitably made, but they require enormous amounts of handholding and follow-through with the borrower. While there are firms with staff capable of doing this, the personnel infrastructure in the country is simply not adequate to do an effective job at anything approaching the current volume. The problems here are already showing up and are going to get worse. Although, as Mike Prell pointed out, 60-day delinquency rates on mortgages are still fairly modest in the aggregate, the same is not true for those loans that are targeted to populations likely to get into trouble. For example, FHA 60-day delinquencies hit 2.83 percent in the first quarter of this year. That is a new record, and the worst is yet to come. Delinquencies and foreclosures tend to peak a few years after the mortgages are originated. Mortgage lenders were particularly aggressive in this type of lending during 1994 and 1995, in large part because of impending CRA reform and other regulatory jawboning.

Why care? I think there is a long-term social cost we are going to pay from all this, but my Calvinist instincts should not have any bearing on your decision. More topically, I do not believe that these issues are of the type or magnitude that will affect the integrity of the banking system. The banks are well reserved for any reasonably expected losses and increasing portions of their mortgage portfolios are being securitized. But from a timing point of view, the increased availability of credit has allowed this expansion to continue longer than it otherwise would. Consumption has expanded more quickly than the income of the great majority of American households. This has not proved troublesome for the expansion because these households took on increasing amounts of debt. I admit to having been surprised that this has gone on for such a long time and I am now convinced that it can go on so long as lenders remain willing to extend the terms and conditions under which they make loans. But the price we are paying is the increasing fragility of the underlying financial structure of the household sector. While increasing debt burdens will not of themselves end the expansion, they do make the economy more susceptible to unforeseen developments. The next recession will be longer and deeper than it otherwise would have been because of this extra debt. Our memories of 1991 and particularly 1992 should be fresh enough to remind us of what balance sheet problems in a significant sector of the economy can do to macroeconomic performance.

At the same time, I do not believe that a sudden burst of aggregate demand is likely, given these conditions. As long as the real incomes of the great majority of American households remain stagnant, borrowers and lenders would have to take complete leave of their senses to finance an accelerated consumption binge. It would be one thing to go deeper in debt; it is another to go deeper in debt at an ever accelerating rate. I am also concerned that the computerization of the credit-granting decision is going to accelerate the speed with which any adverse economic shock is transmitted to and throughout the household sector. Aside from lowering the cost of

credit decisions, credit scoring also makes it easier to review existing credit files. In the present upturn, this has meant faster granting of increased credit lines on credit cards and easier terms for auto loans and mortgages. In the future downturn, it will mean just the opposite. The normal decision lags in the process will be far shorter next time, and thus the time available for the shock to work itself out before it becomes self-reinforcing will be reduced. From a policy perspective, this is the real meaning of the term fragility with respect to the economy; and all we can do is watch and wait.

CHAIRMAN GREENSPAN. Governor Kelley.

MR. KELLEY. Thank you, Mr. Chairman. At the last meeting, I observed that I thought we were entering a watershed period. I believe that we are now in that period, although I think it is too early to tell just which way the water is going to fall when it falls. Certainly at this time, we have an economy with a good head of steam. Many have remarked on that. And we could be looking at a pickup of inflation; that prospect could certainly raise its head. If we are convinced that the likely scenario is intensifying inflation and that it is baked in the cake, then I think it is time for action. It is better to adjust policy sooner rather than later, once we believe that. But I still must question whether or not that is the case. If we look at the past four quarters including the second quarter and assume 4 percent growth for the second quarter, four-quarter GDP growth would be a little over 2.5 percent. Over most of this past period, many observers here and elsewhere have believed that the economy was at capacity; we started talking about that some time ago. And yet where are we? Most of our inflation measures--the core CPI, the core PPI, and the GDP deflator--are flat on a rate-of-change basis or else the rate of change is beginning to drift down in some cases. Foreign inflation is half that in the United States. Unit labor costs currently are rising at a rate of around 2.3 percent, and they have been decelerating over the course of this four-quarter period. The capacity utilization rate has been flat at about 82 percent. Unemployment has been flat at 5.5 or 5.55 percent; there are two 5.6s in there. Commodity prices are now falling almost across the board, including virtually all industrial commodities, gold, oil, and even a large number of foodstuffs.

I think the third quarter may be a time when we will get a reading on the watershed. When we are talking about a four-quarter change, folding in one quarter forward could make a lot of difference. If the third-quarter growth rate is going to be another 4 percent or so, then the four-quarter rate of change will accelerate to about 2.7 percent. If the growth rate is going to fall back to 2.5 percent, which is still above the Greenbook forecast, we would then be talking about a four-quarter rate of change falling back to 2.4 percent and we would have a declining trend. So, the current quarter will make a lot of difference in terms of judging the trend.

If we look at the Greenbook for the rest of the forecast period of six quarters out, as Mike Prell noted the staff has projected a trend rate of growth of about 2.2 percent, a flat unemployment rate at 5.5 percent, a flat capacity utilization rate, unit labor costs rising at a 2.5 percent rate without much trend, and

no acceleration in the growth of activity over the course of that six-quarter period. One certainly can argue that that may be too modest a forecast on the output side and that the rate of inflation may rise during that forecast period. That is the risk. We have had a very fickle expansion for 20 quarters or so now. The rate of economic growth has changed its direction something like 11 times in those 20 quarters, so the rate of expansion has repeatedly sped up and slowed down. Even if the risk is to the up side, it may not be that great a risk. If we look at the last two years and where we are today, and particularly if we focus on the last year to date, it is hard to generate much conviction out of that experience that we necessarily are going to see any inflation impulse at all, given economic growth in line with the Greenbook forecast. Certainly we could, but it seems to me that if the economy runs a course similar to that over the past year or two, at the worst increased inflation will be rather slow to materialize and will not have very much muscle behind it. So, there is some chance in my opinion that we may be able to continue to ride the crest of this really remarkable period for some time to come. Beyond that, who is to say which way the water is going to flow?

Mr. Chairman, the tale is not yet told in my view. I do agree that the risks are on the up side, and as a consequence I am sitting very lightly in my chair.

CHAIRMAN GREENSPAN. Governor Phillips.

MS. PHILLIPS. Thank you, Mr Chairman. The moderate growth story that we have been talking about certainly seems to be playing out. The second-quarter information looks generally strong, and indeed most of the members around the table have ratcheted up their growth projections. The difficult question before us is to what extent the slowdown that is projected in the Greenbook will materialize. A turn in direction is the most difficult thing to project, and I suspect that may be why we are getting some differences around the table in our forecasts. There clearly are some good arguments for a slowdown. Higher bond rates certainly should affect interest-sensitive sectors of the economy. Housing is showing some signs of a pause. The slowdown in business fixed investment seems to depend on people's expectations of slower growth in final sales, including the notion that we have run through pent-up demand. Consumer spending has been a consistent source of strength, one that has been financed by increased consumer debt as Governor Lindsey has just documented for us. So, I think that consumer spending will at best only track increases in income, which again supports the argument of a slowdown. The notion that job insecurity stemming from downsizings and improvements in technology continues to generate substantial uncertainty is another factor that should help to slow the growth in consumer spending.

I do have to say that a slowdown in the second half is not a sure thing. We have been saying, for example, that business fixed investment would slow in 1996, but so far we have clocked in a double-digit rate of increase. Although interest rates are up from their lows, the overall cost of capital is fairly reasonable. The cost of equity capital is really quite favorable. The term structure of interest rates is fairly healthy in terms of both the overall level and the slope of the yield curve. Various types of risk management tools and new financial instruments are allowing businesses and

households to time-adjust their expenditures and their commitment patterns. I think that this is adding to the difficulty of projecting a slowdown. Another reason why a slowdown is not necessarily a sure thing is that wealth effects may encourage consumers and businesses to continue to spend and invest. As long as we have unemployment in the 5.4 to 5.6 percent range, people are working and they are likely to continue to spend. So, it is hard to argue that there will be a big pullback in consumption. The industrial sector is showing some strength. We do not have major economic imbalances to work through in terms of inventories, which are relatively well aligned with sales. Business balance sheets have been improved in many cases. Capital and banking markets are well positioned to support increased growth. There has certainly been progress on the Federal deficit, at least in the short run.

Turning for a moment to inflation, as measured by the CPI it clearly has accelerated in early 1996, but if we take a longer look at some of the broader statistics, we are getting very mixed signals. I was particularly impressed by one of the tables in the Greenbook showing changes from 12 months earlier for a whole series of indicators for the period ended in May. Comparing the year ended May 1995 to the year ended May 1996, there actually have been improvements in the CPI, core CPI, core PPI, intermediate PPI, core intermediate PPI, and core crude materials. The only major indexes that did not improve are the PPI and its crude materials component, and the reasons there are the oil and food stories. But crude materials excluding food and energy are down 12-1/2 percent for the year to date, and other commodity price measures also are down. I would not have expected to see an improvement in inflation given the fact that we have seen a fairly strong economic performance this year.

Looking forward as opposed to looking back at the last 12 months, the inflation risk from the energy sector that we cited in May seems to have abated and energy prices appear to be coming down. But while the risk from energy appears to have lessened, the risk from rising food prices remains. We have come far enough along in the planting season that the chances of a disastrous harvest have diminished, but we still are at some risk in the food area. Wages are another area at risk, given the outlook for a hike in the minimum wage, reports of scattered labor shortages, and the ECI surge that we saw for the first quarter of this year. The federal deficit situation remains a problem for the long term, and we need to make some progress on that. So, the risk of rising inflation is definitely present. Even so, I think there is some room for optimism. There has been some discussion around the table about productivity. Are we measuring productivity in services correctly? Are we measuring the productivity gains from technology accurately? We also have had an expansion in capacity over the last few years that should help in terms of moderating cost pressures. In addition, I believe that inflation psychology has lessened somewhat. So, there is some room for optimism on the inflation side, but there is certainly continued risk.

In sum, I think the economy is doing quite well, and the strength is all the more impressive because we have seen improvement in inflation. But the risk to the expansion does seem to me to have shifted to the up side. To the extent that we have a second-half slowdown, it may well be fairly shallow.

CHAIRMAN GREENSPAN. Governor Yellen.

MS. YELLEN. Thank you, Mr. Chairman. I will try to be brief because, like President Broaddus, I would like to take a little extra time in our next go-around concerning price objectives for monetary policy.

The key questions today are identical to those at our last meeting. Will aggregate demand really moderate in the second half of the year, and are we about to see an uptick in core inflation due to increasing wage pressures in already tight labor markets and the feedback of higher food prices into wage demands? With respect to the slowdown in aggregate demand, I confess both ignorance and concern. I agree with the Greenbook that aggregate demand will probably slow toward trend, for all of the reasons that are by now familiar, and will probably do so with the usual long and variable lags. Higher interest rates and a somewhat stronger dollar will eventually take some toll on housing, associated consumer durables, and net exports. The influence on growth of inherently transitory factors like the rebuilding of auto inventories will soon wane, and the data already point to a slowing pace of noncomputer investment spending, consistent with predictions of the accelerator. But I admit there is only scanty evidence that housing markets are poised to cool. Computer investment may turn out stronger than the Greenbook anticipates. I also agree with the Greenbook that with leaner inventories, a surge in inventory investment is possible and poses upside risks. If final demand growth proves significantly stronger than was anticipated, inventory investment could again increase, touching off a new round in the inventory cycle. The risks here seem weighted toward the up side.

With respect to inflation, though, as a number of you have emphasized, the news has been favorable. Core inflation in the CPI and PPI remains well contained and, as the Roberts memo and the Chairman highlighted, consumer inflation as measured by the chain-weighted PCE is running just over 2 percent. I would emphasize that our most recent readings on long-term inflationary expectations also are quite positive, suggesting the absence of any deterioration there. Food prices do seem poised to rise, with pass-through to wages and core inflation a possibility. But eventually, even if it is beyond our forecast horizon, it seems to me that these weather-related price hikes will unwind, bringing core inflation back down, too. In my opinion, temporary supply shocks should be essentially irrelevant to monetary policy.

At the same time, labor markets do seem tight, although they are no tighter now than they have been for most of the last two years. Several of us commented at our last meeting, and a number of you focused on this today, that there are several aspects of labor market behavior that are puzzling. Increases in compensation are running significantly below what our models would predict. Core inflation still exceeds the pace consistent with the apparent trend in unit labor costs, and profit margins have widened. In my estimation, the entire pattern of surprises that we are seeing is exactly consistent with what one would expect to see as a result of a structural change that has a negative impact on the bargaining power of workers. Such a shift might result from an increased sense of job insecurity related to technological change or corporate restructuring as the Chairman has emphasized. It could be due to factors raising workers' perceptions

of the likely cost of job loss. It could be due to improvements in the ability of firms to outsource either domestically or internationally because this poses a threat to the bargaining power of workers. It could be due to an increased prevalence of more flexible pay-for-performance arrangements.

We often remind ourselves that the natural rate is not a time-invariant constant. But it is structural shifts like the ones I have mentioned that in modern theories of the labor market would shift the natural rate of unemployment and result in a persistent, not just a very transitory, decline in the natural rate. The unfortunate thing is that the hypothesis that the natural rate has declined for these or for other reasons remains just that. It is a hypothesis, and it can only be confirmed with an accumulation of data and the passage of time. The staff, I believe, is properly skeptical. We may be living on borrowed time, and there may end up being a price to pay for having allowed the economy, to use Governor Lindsey's phrase, "to push the envelope." In my estimation, though, with each passing quarter--and I now count seven--in which unemployment remains near 5-1/2 percent and core inflation declines or remains stable, the Committee's degree of confidence that the natural rate has fallen should rise a little. Mine certainly has.

CHAIRMAN GREENSPAN. Governor Meyer.

MR. MEYER. Thank you, Mr. Chairman. During the last couple of months, I have had plenty of time to anticipate my participation [Laughter] in the discussion around this table, and I am delighted finally to have this opportunity.

CHAIRMAN GREENSPAN. We welcome you.

MR. MEYER. Thank you. It is nice to begin by finding myself in such strong agreement with the staff forecast, both in anticipation of a slowing toward trend immediately ahead and in appreciating upside risks in the current environment. Now this agreement is both pleasing and disappointing at the same time. I am pleased on the one hand to find that the approach and the judgment of the staff is so similar to mine and, in that respect, it feels like home. On the other hand, I have to admit that this robs me of some potential value-added that I might otherwise bring to this group.

I want to focus my remarks on what I view as the two key issues in the forecast in relation to the decision that is before us. If it sounds like there is an echo in this room, it is really my fault for allowing Governor Yellen to slip her remarks in before mine! The first issue is, is growth likely to remain above trend? If so, then given the already high levels of resource utilization, we will certainly have to tighten sooner rather than later. Second, even if growth quickly returns to trend and the unemployment rate stabilizes at the prevailing level as in the staff forecast, are utilization rates already so high as to make a gradual increase in inflation inevitable? If we are going to reach this conclusion, a tighter policy would also be called for, though the small gap implied by the staff forecast makes such a move less urgent than in the case of persistent, above-trend growth. I want to comment a little further on each of these two points.

First, with regard to a slowdown toward trend, I expect the economy grew at a rate of about 4 to 4-1/2 percent in the second quarter. If the staff forecast is correct and if mine is correct, this will be the only quarter during the year when growth is significantly above trend, and it will follow a year when growth was decidedly below trend. I think Governor Kelley did a very excellent job of putting that in historical perspective by looking at four-quarter growth rates. That would produce growth for the year of about 2.7 percent on a fourth-quarter to fourth-quarter basis, but I am looking for a growth rate of 2 to 2-1/4 percent both in the second half of 1996 and over 1997.

Now, why do I think the expansion is likely to slow? As has been well documented, part of the largess in the second quarter is due to special factors, including the end of the first-quarter GM strike, reversal of the effects of the government shutdown and a rebound from adverse weather. Of course, these special factors have just shifted growth between the first and the second quarters, and they do not take away the fact that the expansion accelerated to a rate of about 3 percent over the first half of the year. Still, the strength now apparent in the second quarter overstates significantly the sustainable momentum in the economy going forward. I expect that final sales actually will have slowed in the second quarter and that the inventory investment that was such a powerful contributor in the second quarter will provide a declining contribution to output growth in coming quarters, setting the stage for trend growth. The projected slowdown in final sales is suggested by both the rebound in long-term interest rates this year and the appreciation of the dollar. It is consistent with at least some hints about what is going on in some key sectors. There is no question that housing has been a lot stronger than I expected in the first half, but I believe that the decline in housing starts we saw in May is the beginning of a gradual erosion of strength in the sector largely due to the rebound in long-term rates. Contract data suggest that nonresidential construction activity is also on a slowing path. There appears to be very little life left in equipment spending other than computers, reflecting a combination of accelerator and cash flow effects. Having said that, I can see the upside risk in this environment and I will say here that if it were to persist and the economy were to be a lot stronger, I would not have to be dragged kicking and screaming into another view of monetary policy.

Let me talk about the uncertainty, which I think is also important, about the implications of current utilization rates. Utilization rates have eased in manufacturing since the cyclical peaks in late 1994 and early 1995 and have remained nearly constant for almost the last two years in the case of the labor market. The unemployment rate is admittedly below the staff estimate of NAIRU, which in turn is virtually identical to my own point estimate. However, there is no broad-based evidence of a demand-induced acceleration of inflation despite the persistence of a low unemployment rate for nearly two years. Indeed, core measures of inflation for both the CPI and the PPI actually have moved lower this year. So for my part, if there is any surprise about inflation, it is how well contained it is rather than how high it is. The staff continues to project, based on the unemployment gap, a gradual acceleration of inflation pressures in coming quarters. But there is certainly some hint in the recent data of a change in the fundamentals governing the wage-price process. In the current context, I wonder if

it would not be useful to think of NAIRU more as a range than as a point--say, 5-1/2 to 6 percent. If the unemployment rate remains within this range, then there is no case for intervening. As the unemployment rate moves toward the bottom end, then we should become increasingly alert to the potential need for a tighter policy but action should be postponed until the rate moves outside this range. Now, we seem to have a pattern where we see scattered evidence of wage pressures but little evidence of price pressures, and I wonder whether or not what we are seeing is some reversal of the pattern of widening profit margins that occurs early during a recovery when wages lag price inflation. If so, we can accommodate the somewhat faster wage gains without having them pass forward in the form of higher inflation.

I also want to say a few words about special-factor inflation, which clearly has boosted inflation so far this year. I am leery of supporting what I might call "counter-weather," as opposed to countercyclical monetary policy that would seek a tighter policy to offset the temporary blip in food prices that has not yet even arrived. In addition, I have some strong priors favoring a sharp decline in oil prices by the fourth quarter, and I expect that oil prices are going to be below the staff forecast in 1997.

In summary, I expect growth to slow to trend in time to prevent the unemployment rate from moving below the narrow range that has prevailed over the last two years. The current level of the unemployment rate is not definitively below NAIRU. I am happy with the current environment. Thank you.

CHAIRMAN GREENSPAN. Governor Rivlin.

MS. RIVLIN. I have been on the job exactly five days, so I am not going to say a great deal, in part for that reason and in part because an awful lot has already been said with which I agree. But I think you will have to admit that Larry and I chose a remarkably good time to join the Federal Reserve and the FOMC. This is the most favorable set of economic statistics and projections that I can remember and that I think most people around the table can remember. To have healthy growth and no clear sign of inflation is quite remarkable, and as I listened to the comments around the table everybody seemed to be straining to explain to themselves and to each other why it is so good when we all thought that this probably could not really happen. My own views fit very closely with the projection in the Greenbook. That is partly because the Administration from which I am a recent refugee has a forecast that is very similar to the one in the Greenbook. When the Administration is so close to the Federal Reserve, everybody ought to be reassured that there isn't some kind of hanky-panky going on!

To draw on my recent area of so-called expertise, I do find the Fed staff a little pessimistic about the outlook for the federal deficit in 1997. The 1996 deficit is certainly going to be better than anybody predicted. The \$125 to \$130 billion range now looks good to everyone. The 1997 deficit will certainly be higher, but I think it is unlikely to be as much higher as the Fed staff projects; they have a \$163 billion deficit. I think it is very possible that we will get a major new effort at deficit reduction, if not before the election certainly shortly after it, no matter who wins. That might

not be soon enough to affect fiscal year 1997 very much, but it could have a strong effect in demonstrating the outlook for declining outyear deficits, which the markets certainly would view as a favorable thing. Besides that, I am simply in the same place as my colleagues. Everything depends on whether this slowdown in the second half of the year actually materializes. The recent statistics do not show that yet, clearly, and the upside risk is certainly there. But it is impressive how difficult it is to find any real evidence, either statistical or even anecdotal, that there are strong wage pressures or even more so that there are upward movements in prices. Indeed, as several people have noted, the general inflation trend has been down. So, I will watch with eagerness as this story unfolds over the next few months. I just do not think we know yet whether the good news can hold or whether we are in for some unpleasant shocks.

CHAIRMAN GREENSPAN. Thank you all. Shall we adjourn for coffee? When we come back, we can talk about long-term inflation.

[Coffee break]

CHAIRMAN GREENSPAN. The next item on our agenda--the issue of long-term inflation goals--is something that we have been discussing on and off for a long while, and I think we will continue to do so. It is important that we move forward on this issue and more specifically that we agree on what the goals mean before we can find some consensus within the Committee regarding their implementation. As background for today's discussion, Dave Stockton wrote what I felt was an exceptionally interesting memorandum and raised a number of what I believe are relevant issues. Basically, I think what we have to confront is a number of specific issues that we have never really focused on.

When we talk about price stability as a goal, setting aside the measurement problem, are we talking about price stability or are we talking about zero inflation? As we all know, those are two separate things. Choosing zero inflation means that, when a deviation occurs, we would forgive past mistakes or changes on either side of price stability. But if the objective is to maintain price stability, a deviation implies action to reverse the changes. We also might have some other approach that is a variation of the two. This organization has become increasingly involved in analyzing the question of the wage compression that occurs when inflation moves toward zero and wages move down sharply. Does the issue of nominal versus real wages make a significant difference as to how the economy functions? Within the Board, I think we have a wonderful argument brewing. The issue also occurs with nominal interest rates and their downside limit. There is also the much broader question of transition costs and benefits, all of which relate to how we approach this issue. It is a simple matter to state that we will have such and such a goal, but it is very difficult to get this Committee--comprised not of 12 but of 19 individuals who are relevant in regard to this issue--to agree on some simple standard without a really fundamental agreement on what it is we are talking about when we have such a stated goal. That is as much as I am going to say on this issue at the moment. We have two discussants requesting to be recognized, and we will go first to Dr. Yellen and then to Dr. Broaddus.

MS. YELLEN. I will apologize in advance, since my comments are a little on the long side. I would like to begin by summarizing my views and then run through a mini cost-benefit analysis of the welfare consequences of a permanent reduction in inflation. To preview my conclusions, I think we should move to lower inflation but gingerly, because we really do not know how large the permanent costs might be in the form of higher unemployment, and we should find out by testing the waters, studying the results, and rethinking further initiatives if the costs turn out to be too large.

The experience of our northern neighbor should serve as a warning to us to move slowly. The Canadian economy usually tracks the U.S. economy fairly closely. Recently, though, Canada has pursued and achieved very low inflation targets, but its real economic performance relative to the U.S. economy has been very poor. The divergence between the two economies in the 1980s was likely due to differences in the U.S. and Canadian treatment of unemployment insurance, but the declines in the employment ratio since 1990 are most likely due to restrictive monetary policy targets that have achieved the lower end of the Canadian target range of 1 to 3 percent inflation. Since mid-1992, the Canadian unemployment rate has averaged 10.5 percent, 3 percentage points above the estimated Canadian NAIRU, while core inflation has remained virtually stable instead of decelerating the 6 percentage points--to negative 4.5 percent by mid-1996--that would have been predicted by the usual Canadian Phillips curve relationship. That suggests a long-run Phillips curve that is quite flat in the neighborhood of zero inflation.

To perform the relevant cost-benefit calculation of lower inflation in the United States, we need to measure both the transitory costs involved in moving from where we are to our ultimate inflation target and then any permanent costs and benefits associated with different steady-state inflation rates. I would like to start with the easy part, the short-run costs because here I think the literature is clear and we can narrow down the range. The sacrifice ratio in our new FRB-US model without credibility effects is 2.5, resulting in an output cost of about 5 percent of GDP per point of inflation. In principle, credibility effects could lower the sacrifice ratio, but both international cross-section evidence and time series evidence for various countries provide no support for a credibility effect, and I agree with David Stockton's conclusion that "empirical evidence of credibility effects of announced inflation targets is difficult to find."

So much for the range of short-run costs. Now, to make it worthwhile to bear an output cost in Dave Stockton's range of 3 to 6 percent of GDP per point of inflation reduction, the permanent net benefits would have to be substantial, although any benefits that are dependent on GDP will grow over time. If we think of the short-run costs as a risky investment, we would need to earn a pretax return on a par with alternative uses of funds. If we assume a 6 percent required rate of return and 2 percent growth in real GDP, we would require an expected permanent net benefit somewhere in the range of a bit over .1 to .25 percent of GDP--

CHAIRMAN GREENSPAN. Excuse me, that 6 percent is real interest rates?

MS. YELLEN. Right. If you like, you can vary the assumptions.

CHAIRMAN GREENSPAN. No, it's just that you did not specify.

MS. YELLEN. I'm sorry; I am thinking of real rates. So one would need a little over 1/10 percent to about 1/4 percent of GDP as a net gain per point of inflation reduction to justify that type of investment. The question is, from whence might such benefits accrue? In the interest of time, I want to focus on only the things I consider major.

The only identifiable benefit of low inflation that I think could be big enough to create the needed payoff is connected with the tax system and its interaction with inflation. The most important recent study is that of Martin Feldstein, and it shows that the benefits in question are positive and large, contrary to most people's intuition. Feldstein calculates that the benefits due to lower tax distortions from a 2 percentage point reduction in inflation under his baseline assumptions amount to 1 percent of GDP. The lion's share of that gain, .92 percentage point, accrues from reducing the deadweight loss associated with distortions in the timing of consumption over the typical saver's lifetime. But Feldstein's calculation relies not only on the assumption of a moderate positive interest elasticity of savings demand but also on the, to me dubious, assumptions that first, most saving is for retirement and second, that there are no tax-sheltered retirement savings vehicles. Feldstein's calculations omit the many ways under existing tax codes that savers can and do shelter income on retirement savings, including pension plans, tax-deferred savings plans, and annuities. This suggests to me that Feldstein's number could be off by an order of magnitude. I would add that despite the technical difficulties in rewriting the tax code, these gains could be achieved at far lower cost simply through legislation.

Now, I think there are likely to be significant, permanent costs of very low inflation, and David Stockton pinpointed them accurately. First, a little inflation permits real interest rates to become negative on the rare occasions when required to counter a recession. This could be important, and I think the current situation in Japan provides a textbook example of the difficulties in stimulating an economy that is experiencing deflation. Even with nominal short-term rates at .5 percent, real short-term rates cannot fall into the needed negative territory.

Second, and to my mind the most important argument for some low inflation rate, is the "greasing-the-wheels argument" on the grounds that a little inflation lowers unemployment by facilitating adjustments in relative pay in a world where individuals deeply dislike nominal pay cuts. With some permanent aversion to nominal pay cuts, the output and unemployment costs of lowering inflation that we ordinarily think of as transitory simply never disappear because the long-run Phillips curve becomes negatively sloping as inflation approaches zero. This is arguably the recent Canadian experience. A recent paper by George Akerlof, Bill Dickens, and George Perry, forthcoming in Brookings Papers, shows through simulation experiments the frequency with which nominal wage cuts would be required to avoid permanently higher aggregate unemployment as American inflation falls toward measured zero under realistic assumptions about the variability

and serial correlation of demand shocks across firms. The authors assume that firms experiencing losses can and do cut wages after two years, which is in accord with existing evidence by Blinder and Choi, Bewley and others, and that workers will accept nominal wage cuts when they perceive it as needed and fair. Even so, these authors find that the needed frequency of nominal cuts rises rapidly as inflation declines. Here are some numbers: On top of those firms that would cut wages after two years of losses, an additional 5 percent of firms would seek to cut wages at 3 percent inflation, 10 percent at 2 percent inflation, 19 percent at 1 percent inflation, and 33 percent of firms would ideally impose wage cuts on workers at zero measured inflation.

CHAIRMAN GREENSPAN. What is the productivity growth level?

MS. YELLEN. Productivity growth is placed at the current 1 percent level. An aversion on the part of firms to impose these desired nominal wage cuts results in higher permanent rates of unemployment. As the numbers I just cited would suggest, the impact of resistance to nominal wage cuts on permanent unemployment is highly nonlinear. It would be barely noticeable at present U.S. inflation levels. It is also worth pointing out, picking up on the comment the Chairman just made, that what matters to permanent unemployment is not the steady state inflation rate per se but the sum of the inflation and productivity growth rates, which determines the trend in nominal wages. If we go back to the 1950s and 1960s and ask why we had low unemployment with low inflation, I think the answer is that productivity growth was much more rapid and that makes a big difference.

The key question is how much permanent unemployment rises as inflation falls, and here the methodology used to assess the consequences does matter. These authors used general equilibrium methodology and here is what they find: The natural rate rises above its assumed 5.8 percent minimum to 6.1 percent as measured inflation falls from 4 down to 2 percent; the natural rate rises to 6.5 percent at 1 percent inflation, and then to 7.6 percent at zero percent inflation. With different methodology, the impact of nominal rigidity could be lower. But even so, I think it is apparent that an economy where 20 to 30 percent of firms need to impose pay cuts in a typical year to operate efficiently is likely to be an economy that will end up functioning below its potential.

The simulations in this paper assume that, except in circumstances where the firm is really in trouble, workers resist and firms are unwilling to impose nominal pay cuts for fear of harming worker morale and causing productivity-reducing backlash. In Canada between 1992 and 1994 when core inflation was under 2 percent and unemployment 3 percent above the estimated NAIRU, 47 percent of 1,149 observed labor contracts had pay freezes but only 6 percent had wage cuts. The question is, how common is resistance to nominal wage cuts? I certainly do not have time to review all the available evidence, but I want to say that I think we are dealing here with a very deep-rooted property of the human psyche that is uncovered repeatedly in experiments, surveys, and interviews. Very recently, Bob Schiller of Yale posed the following question to a random sample of Americans. He asked, "Do you agree with the following statement: I think that if my pay went up, I would feel more satisfaction in my job, more sense of

fulfillment, even if prices went up just as much." Of his respondents, 28 percent agreed fully and another 21 percent partially agreed. Only 27 percent completely disagreed, although I think it will comfort you to learn that in a special subsample of economists, not one single economist Schiller polled fully agreed and 78 percent completely disagreed. [Laughter]

To the best of my knowledge, the only potential evidence in favor of the proposition that Americans will and frequently do accept nominal wage cuts without changing jobs comes in recent studies whose methodology I consider flawed. These studies use individual data from the Panel Studies on Income Dynamics, a longitudinal study that follows individuals over time. To compute the wage changes of employees who remain in the same job, these various studies take the difference between wages reported by the same individual in consecutive years. The problem with this approach is that it is known that reporting error in wage levels is very large, and such errors result in an artificially high incidence of calculated wage cuts. In commenting on the most recent paper of this sort, by David Card and Dean Hyslop, John Shea computed the incidence of reported and actual wage cuts of 379 participants in the PSID whose occupation, industry, and area of residence enabled him to uniquely define the bargaining agreement covering them. He found that 21.1 percent of those respondents had reported wage cuts, but in contrast, only 1.3 percent were actually covered by bargaining agreements that contained wage cuts.

Where does that leave us? I want to wrap up by indicating what happens when we do the cost-benefit analysis by using the Akerlof, Dickens, Perry estimates of inflation-related changes in permanent unemployment along with Feldstein's estimates of the tax-related welfare benefits under his baseline and more conservative assumptions about the interest elasticity of savings. As I total things up, it appears to me that a reduction of inflation from 3 percent, which I take as roughly our current level, to 2 percent, very likely, but not surely, yields net benefits. The "grease-the-wheel" argument is of minor importance at that point, and tax effects could be significant. But with further reductions in inflation below 2 percent, nominal rigidity begins to bite so that the marginal payoff declines and then turns negative. To my mind, to go below 2 percent measured inflation as currently calculated requires highly optimistic assumptions about tax benefits and the sacrifice ratio. Of course, if inflation cum tax distortions were remedied through legislation instead of Federal Reserve policy, the net benefits would be lower.

CHAIRMAN GREENSPAN. Al, may I respond to this just for a minute?

MR. BROADDUS. Absolutely. I do not really have a response, just a comment.

CHAIRMAN GREENSPAN. We have an argument that is very well put together. In an unusual way, what you have documented is one of the necessary conditions for price stability, which is accelerated productivity.

MS. YELLEN. I agree with that.

CHAIRMAN GREENSPAN. But let me go further. I must admit that several years ago I raised this hypothesis with our staff colleagues and had them take a look at what happens to productivity as the inflation rate moves toward zero. Lo and behold, they got a reasonably good correlation that unfortunately disappeared to a large extent when the data were revised. Leaving the statistical tests aside, we do observe out in the world that as the inflation rate falls, it becomes increasingly difficult for producers to raise prices. They therefore tend to try to reduce costs in order to maintain margins. We have seen that as a generic observation. We know that if everyone does it, since on a consolidated basis 65 to 70 percent of the cost structure is labor manhours, of necessity we will tend to get an increase in productivity because it is being forced on the system by the downward compression. If that is the way the system functions, then we can turn the analysis on its head and raise the question of what type of productivity increases are required to maintain nominal wage level distributions in which the compression does not occur and all of the adverse tradeoffs that are involved with the Phillips curve do not occur. Implicit in that argument, if we are to move toward price stability, is that the process in and of itself induces an acceleration of productivity.

MS. YELLEN. I would agree with your conclusion that we need higher productivity growth, but I have not seen any evidence that convinces me that we would get it. But certainly if we did get it, or if productivity growth were higher, it would be easier by an order of magnitude to live with price stability.

CHAIRMAN GREENSPAN. We do see significant acceleration in productivity in the anecdotal evidence and in the manufacturing area where our ability to measure is relatively good. We can see that acceleration if we look at individual manufacturing industries. It is our macro data that are giving us the 1 percent productivity growth for the combination of gross industrial product and gross nonindustrial product, which do not show this phenomenon.

MS. YELLEN. One could argue that we have roughly a 1 percent bias in the CPI so that right now we have, say, 2 percent productivity growth and 2 percent core inflation.

CHAIRMAN GREENSPAN. We have not had such productivity growth for long.

MS. YELLEN. Such productivity growth would mean that we are living successfully with 2 percent inflation.

CHAIRMAN GREENSPAN. That is exactly the point. That is another way of looking at it.

MS. YELLEN. Because productivity growth is really higher than we have measured it.

CHAIRMAN GREENSPAN. In fact there is obviously an exact, one-to-one tradeoff. That is, we can reach price stability either by driving down the inflation rate and getting productivity to bounce up or by revising down the inflation figures and producing higher productivity! [Laughter]

MS. YELLEN. I am perfectly happy with the last view.

CHAIRMAN GREENSPAN. Al.

MR. BROADDUS. This is a big and broad issue. Janet has approached it one way. I am going to approach it a somewhat different way rather than try to respond in detail to her comments, which I thought were very interesting and constructive. For some time now, we have had these monetary aggregate ranges under the Humphrey-Hawkins procedure, but I think we would all agree that they have not been effectively playing their traditional role of serving as a nominal anchor for monetary policy and a signal of the Federal Reserve's commitment to longer-term price stability. We need a better anchor. We have discussed this issue on several occasions in the last couple of years, and I am glad we are continuing the discussion today. But I would hope that we can do just a little more today than simply discuss this issue and perhaps get at least a little closer to deciding on a strategy for actually achieving our longer-term objective. We do a lot of strategic planning at the Fed; we have a strategic plan for supervision and regulation and we have a strategic plan for financial services. Mike Kelley and Susan Phillips and our staff colleagues are working on an umbrella strategic plan. I think we need a better and clearer strategic plan for monetary policy.

In thinking about this, I found Dave Stockton's memo very constructive but mainly in the sense that it serves to underline and make very clear the substantial disagreement among economists and others regarding exactly what our long-term goal should be and how we should pursue it, and the large number of complicated issues in this area. Reading that memo and listening to Janet Yellen has served to convince me that if we are really going to make progress, we need to prioritize some of these issues. In particular, I think we need to sort out those issues on which we might be able to make some progress relatively easily in the near future from those that are going to be more difficult and complicated and take longer to deal with. Against that background, I ask myself whether there are particular points, even if they are limited ones, that most or at least many of us around this table could agree on to serve as a starting point or a cornerstone for building a long-term strategy.

This may involve some risks, but I would assert that there are, or at least there may be, some points of agreement. I think most of us would accept the view that at a minimum we want to hold the line on inflation--that is, to preserve the gains we have made over the last 15 years or so in bringing the trend inflation rate down and then to bring the rate down at least somewhat further over a period of time. Moreover, I think many of us would regard the line to be held as an underlying rate of something like 3 percent on the core CPI, although we can debate which measure it should be. Most of us would like to avoid a situation where the underlying trend rate of inflation moves back up significantly over 3 percent for any length of time. If I am right that we could forge a consensus on what I would regard as pretty basic points--that's obviously because they leave most of the really difficult questions unanswered and I recognize that--I think acceptance of these points would be consistent with either the opportunistic or the conventional deliberate approach to policy, in the language of the Orphanides and Wilcox paper that Don Kohn distributed back in May. I would argue that agreement on these points

--holding the line on inflation at 3 percent and subsequently bringing the rate down further--would at least be a start. I think that is important. It would move the ball forward two or three yards in what is certainly going to be a very difficult ball game, and it would do so for the first time since we have been talking about this issue over the last year and half or so.

To get the full benefit, though, I think we would need to make some explicit public reference to these benchmark points and our commitment to them. From my standpoint, Mr. Chairman, an ideal opportunity would be your upcoming Humphrey-Hawkins testimony. Some of you may recall that I made essentially the same proposal at the January meeting, our last Humphrey-Hawkins meeting. At that time, several people responded, not unreasonably, that what really matters is not words so much as deeds, and that certainly is true in general. But I'm not sure that we have to choose between words and deeds. I think a few well chosen words stemming from the right source, backed up by deeds, can be a powerful credibility builder over time. The advantage of a public reference to a 3 percent ceiling, as I see it, is that it would commit us to something at least a bit more concrete than simply indicating our commitment to price stability over some indefinite time horizon. We would be putting something on the record for which we could more easily be held accountable. The bottom line is that this kind of commitment would raise the probability--maybe not a whole lot but at least somewhat--that we would eventually get to price stability and achieve our longer-term goals. In this difficult area, I think that is reason enough for doing it. Also, I think public support for the notion of holding the line on inflation and then subsequently making some further progress is probably as high now as it ever will be.

If we succeed in putting a firm ceiling on inflation, we could subsequently move on to the separate and more difficult issues revolving around how we should go about reducing inflation further -- what the timing should be and what approaches we should use. Janet has done an excellent job of outlining some of these issues and tradeoffs. At this stage, two approaches have been suggested -- an opportunistic approach and a conventional or more deliberate approach.

I am uncomfortable with the opportunistic approach, and I will offer three reasons why. First, keeping in mind that the ultimate goal is not temporary price stability but permanent price stability, an opportunistic strategy seems to be premised on the idea that recessions are permanently rather than just temporarily disinflationary. I have trouble understanding that. It does not make a lot of sense to me unless the recession is a byproduct of deliberate efforts by the Federal Reserve to reduce trend inflation. In short, I am not sure that there are autonomous recession opportunities out there, if I can use that awkward phrase, that can be counted on to reduce inflation permanently in the absence of some deliberate effort to do so on our part.

Second, I think one of the more persuasive arguments for following an opportunistic policy would be that it might deflect some of the criticism we could be expected to receive if we follow a more deliberate approach and are perceived by the public as perhaps keeping policy tight and keeping the economy slack as a way of reducing the inflation rate. But if this kind of strategy is going to work, it

would seem to imply that in recessions we would not ease policy as aggressively as we would if we were not trying to reduce the inflation rate permanently. At first glance, it might look as if this approach would be less visible, less open to criticism, less of a lightning rod, and thus one that would be more likely to succeed. But I think there is a risk here that eventually the public would catch on, and then we would be open to the criticism that we are not easing policy aggressively enough in a recession. Think of the phrases that might come out -- "we are kicking the economy while it is down" and so forth. If we got that kind of feedback, that could undermine the effectiveness of this strategy over time. So, it is not really clear to me what we would be gaining from this approach.

Third and finally, I have always thought that the word opportunistic had a mildly pejorative connotation. So I looked it up in Webster's and it is defined as follows: "The act, policy, or practice of taking advantage of opportunities or circumstances, especially with little regard to principles or consequences." [Laughter] So, if we decide to adopt this strategy, I would hope that at least we would find another name for it. Better yet, I think it would be better to follow a more deliberate, conventional policy.

CHAIRMAN GREENSPAN. Principled opportunism.

VICE CHAIRMAN McDONOUGH. Or deliberate moderation.

CHAIRMAN GREENSPAN. If we are going to get anywhere, we can't have people literally talking at cross purposes. Janet, you did not even accept the premise with which Al is starting, that everyone agrees that we should seek price stability as a goal. If we are going to get anywhere, the question I have to ask first is whether you agree with Al that price stability is a goal we should seek. If you do not, this discussion then gets to the question of whether there is a consensus among the Committee members that price stability is something that should be our long-term goal, not how we get there. First, we have to agree on the goal.

MS. YELLEN. I would simply respond to that by saying that the Federal Reserve Act directs us to aim for both maximum employment and price stability. To the extent that there is no tradeoff at low inflation rates and there are benefits that outweigh the short-run costs, then price stability, literally zero inflation, is good and we should go for it. To the extent that there is a tradeoff, we have to weigh what to do, and I think I am pointing to the possibility of a tradeoff as we go to very low inflation rates.

CHAIRMAN GREENSPAN. So, you are discussing the issue of the transition, not the ultimate goal?

MS. YELLEN. No, I am discussing the issue of the ultimate objective. If we have to pay a permanent price at zero measured inflation in the form of permanently less employment and higher unemployment, I do not read the Federal Reserve Act as unambiguously telling us that we should choose price stability and forego maximum employment.

CHAIRMAN GREENSPAN. The Humphrey-Hawkins Act says that we should have 3 percent adult unemployment. That is the law of the land.

MS. YELLEN. But it does not obligate the Federal Reserve to pursue that goal.

CHAIRMAN GREENSPAN. The fact that it is promulgated in a statute does not mean that it is achievable or that it is something that we assume is achievable because it is in the statute. If I can get the two of you to reconcile, we can move forward.

MR. BROADDUS. I'm not really sure that we are approaching the problem that differently. I am talking more about the process.

CHAIRMAN GREENSPAN. Something is happening to the sound waves between there and here. [Laughter] Go ahead, Bob.

MR. PARRY. Mr. Chairman, is there a way to focus on what was agreed to between them as an interim step? It looked as though both had the same view about the desirability of not allowing inflation to go higher. There also was a very explicit agreement that inflation should begin to move lower, and I think I heard Janet say something like a full percentage point lower.

MS. YELLEN. I agree, yes.

MR. PARRY. Why not set that out as an objective, and then we can have another meeting when we reach it. [Laughter]

MR. BROADDUS. I would like to second that. I think that is a great idea.

MR. PARRY. That would mean more progress than we have made in 11 years.

CHAIRMAN GREENSPAN. Janet, didn't you say that?

MR. LINDSEY. That is actually what she said.

MS. YELLEN. That is what I said, what Bob Parry just stated.

MR. PARRY. That's progress; now we have to talk about when and how.

MS. YELLEN. There are 17 other people besides the two of us.

CHAIRMAN GREENSPAN. That's okay, but you would be surprised at what happens in a discussion. If you let everybody speak and if they all deliver the speeches that they prepared before walking into this room, we will come out of this room with chaos. Let me see if we can establish some structure for our discussion. Can you give me three sentences in conclusion on how you view the question: Is long-term price stability an appropriate goal of the Federal Reserve System?

MS. YELLEN. Mr. Chairman, will you define "price stability" for me?

CHAIRMAN GREENSPAN. Price stability is that state in which expected changes in the general price level do not effectively alter business or household decisions.

MS. YELLEN. Could you please put a number on that?
[Laughter]

CHAIRMAN GREENSPAN. I would say the number is zero, if inflation is properly measured.

MS. YELLEN. Improperly measured, I believe that heading toward 2 percent inflation would be a good idea, and that we should do so in a slow fashion, looking at what happens along the way. My presumption based on the literature is, as Bob Parry summarized it, that given current inaccurate measurements, heading toward 2 percent is most likely to be beneficial.

CHAIRMAN GREENSPAN. Could we leave it at that? Let us now move on. President Jordan.

MR. JORDAN. I'm not sure I'm going to offer anything helpful in terms of how this discussion is progressing. I may want to come back in a moment to the issues about productivity because I think that the incentive effects, on business decision-makers in particular, with regard to efficiency and productivity versus what Janet was citing about wage cuts are an important manifestation of what we are trying to do. The Chairman's version does not affect business decisions.

In my view, businesses and households make their best decisions about the future, whether personal investment decisions or business decisions, when they expect the purchasing power of the dollar to be the same in the future as it is today. It may turn out to be somewhat more or somewhat less, but people make the most efficient decisions about the allocation of resources when they expect the value of the dollar to be the same later as it is currently. If I could be persuaded that permanently eroding or conceivably increasing the purchasing power of the currency, changing the standard of value over time, somehow improves resource allocation and standards of living, I would be very interested. But I am not persuaded. If we can create a situation in which people say that the dollar will purchase the same in the future as it does today and they proceed to base their decisions on that expectation as the most probable outcome, we then would get standards of living that rise at their maximum potential. We also would get maximum employment and the other developments that foster economic well being. The question about an inflation objective versus a price level objective is relevant only if we do not have instant and total forgetfulness. If bygones are totally bygones no matter what happened yesterday, and if all of prior history has no effect on people, and their best expectation for the future is that the dollar will buy the same later as it does today, then there simply is no difference between the two types of objectives. They are identical. A difference comes into play only to the extent that there is a credibility issue. If there is uncertainty about the objective, people will treat yesterday's price shocks as something that we will or will not offset. We then get a difference between a price level objective and an inflation objective. If we are going to talk about the difference between those two, we have to talk about credibility and how we can achieve it.

With regard to international comparisons, I too thought about Canada. I have looked at it and tried to understand whether there is something useful for us to learn there or not. Since I do not speak French and do not know what to do about the problem of Quebec, I usually focus on the other provinces. Investment in British Columbia and Alberta is extraordinarily different from that in the Maritimes, for instance. If I had to conclude anything about Canada in the last few years, given the separatist effort, I would say that I just do not find its experience useful for the United States. I would rather say let us learn from New Zealand because they reduced inflation to 2 percent and had 6 percent real GDP growth. But my guess is that other people would not find that the right place for us to learn from.

If I were going to do surveys about wage cuts or increases of the sort that Janet reported on, one of the surveys I would want to conduct is to ask people as we approach the end of this century to choose between two things. If the central bank had an objective of reducing the purchasing power of the dollar to 13 cents or 7 cents over the next century, which would you prefer? I would expect the majority of the responses to be, why are you going to reduce it at all? Explain to me why the dollar is not going to purchase the same at the end of the next century as it does today. The difference between 13 cents and 7 cents is the difference between a 2 percent rate of inflation and a 3 percent rate of inflation over 100 years. I think most people would view that as a silly alternative. They would say, why not zero inflation.

CHAIRMAN GREENSPAN. President Minehan.

MS. MINEHAN. I know you will all be happy that I am going to scrap my prepared comments. I will just address a couple of issues that both Al Broaddus and Janet Yellen raised because I am in complete agreement with two things on which I think they agreed. That is, we should at a minimum hold the line on inflation where it is and go somewhat further if we can do so. Now, it seems to me that the context in which we should go somewhat further is the important aspect of this. I would argue that that context has to be one where we have a favorable economic situation including decent levels of growth, employment, and so on.

All of that depends on the subject that was raised before--productivity growth and ways in which productivity growth can be enhanced in order to bring about this favorable economic situation. Does a climate of low inflation enhance productivity growth to the point where we can reliably go from 3 percent inflation to 2-1/2 percent, to 2 percent, or to the 1-1/2 percent that we had on average over most of the 1950s and the first half of the 1960s? I do not know. In my view monetary policy's impact on the ability of productivity to grow is indirect. It creates a climate in which I think people make better decisions and focus on investments that enhance productivity as opposed to speculation. So, I believe there is an indirect effect of low stable rates of inflation and arguably of declining inflation on the ability of people to plan and make productivity enhancing investments. That is where monetary policy has an important impact on the growth of productivity. There are others that have some role to play in productivity growth, however. Fiscal policy has a role to play. The amount of investment that we are willing to make either on a public or a private basis in our education

systems has a role to play. Those are not things that monetary policy can affect. But I think in terms of how we discuss moving from where we are to potentially lower and lower rates of inflation, it has to be in the context of better productivity growth, a better overall economic situation.

CHAIRMAN GREENSPAN. Vice Chairman.

VICE CHAIRMAN McDONOUGH. Mr. Chairman, I think price stability is a means to an end, and the end is sustained economic growth, which is how I resolve what appears to be the conflict in the Humphrey-Hawkins legislation and the Federal Reserve Act. I define price stability exactly the way you do. First of all, it is a very good working definition, and secondly, since you are the head of the Federal Reserve, using your definition makes a great deal of sense for all of us. If we each have a different definition of price stability, it certainly confuses the body politic. Since most of the speeches that I give are on price stability, because I think that is what we ought to be talking about, I would also argue that it has major sociological and therefore political benefits. Since most people can understand that more readily than the economic definition of price stability, I think it gets the point across better.

As long as you are willing not to put a number on this purely verbal definition of price stability, we in fact have a national consensus on it. Therefore, the question is whether it is to anybody's benefit to define it more exactly. I am reminded of my days at Holy Cross College studying scholastic philosophy, which had been debating more or less the same major points for seven centuries by the time I came along. Some of those points on which absolute truth had not been defined are probably easier to resolve than an exact numerical definition of price stability. I am not sure that we are ever going to find the absolute truth here or that the search for this absolute truth is anything other than something that would give the FOMC something to do for the next seven centuries. [Laughter] Therefore, why would we want to have anything other than the informal consensus that we have? I think the reason is that an informal consensus is more easily breached than if somehow we could bring about a more formalized national agreement that price stability is the appropriate goal of monetary policy. Previously in our history, we had something closer to price stability for a period of 10 or, arguably, 15 years, as noted in the Stockton paper, and that did not keep us from the guns-and-butter decisions of the 1960s and 1970s that ended that period of relatively stable prices. It had to be re-achieved, assuming we think that we are somewhere close to it now, at enormous expense to the American people.

I think the people who should decide that price stability, hopefully as a means to an end, is the appropriate goal of monetary policy are not the people sitting around this table. Rather, it should be the American people through their representatives in the Congress. We are dealing with pieces of existing legislation that we are defining in a way that makes it possible for us to do our jobs. But those pieces of legislation are on the statute books, and it would seem to me that in due course, i.e., not in a year divisible by four, it would be a reasonable and appropriate thing for the American people to debate through their elected representatives. We could certainly make an active contribution to that debate. My guess is that it would

probably be better for the Federal Open Market Committee not to take a position on this issue as an institution. I say that because if we said price stability is 2 percent--if we were ever able to agree on that--we might set the Federal Reserve against the people. I think that would be a very likely outcome, and in my view it would not be in the interest of the people or this institution.

If the people wanted to formalize the idea of price stability as the goal for monetary policy, we are certainly unlikely in the legislative process to get that defined in numerical terms, and probably not even as unspecifically as a range. In a public speech, I suggested a range of 1/2 percent to 2 percent largely because of the lack of precision in such a range and also because I believe very strongly that although inflation is bad, deflation is truly terrible. Therefore, if in the implementation of price stability we make modest mistakes on the up side, I justify those as an insurance premium against the much greater evils of deflation. That's why I wind up pretty much where Janet Yellen did--in the 2 percent area. In any event, I believe that the search for absolute truth is not going to get us there. I also believe that the true decision on anything more than the working definition, which I think is the working consensus that we have now, is really something of such great importance to our society that it should be the American people who decide that through the normal legislative processes. I do not think it is up to us to make what I think would be a rather dramatic and far-reaching interpretation of what the statutes on the books actually mean.

CHAIRMAN GREENSPAN. Thomas Aquinas would be impressed!
Governor Lindsey.

MR. LINDSEY. I am very impressed with the Vice Chairman's Jesuit training, and I think I agree with him completely. I also agreed with what I thought Janet Yellen said, which is that we should reduce inflation to a lower rate and we should proceed gradually from there as we gain experience. Having agreed with her, I got very nervous when Al Broaddus said he was not going to rebut her because the readers of this transcript five years from now will then conclude that we actually are all on one side of the issue. So, I am going to do the rebuttal that Al did not do only because she provoked me with the use of the word "taxes." [Laughter]

CHAIRMAN GREENSPAN. That was not "taxes;" that was "tactics." [Laughter]

MR. LINDSEY. No, she said the word "taxes." I heard it and she is not going to get away with this!

Let me start off with some calculations very quickly. The presence of retirement vehicles does not solve the problem, and here are some examples. Let us do an IRA-type calculation versus a permanent savings account that is taxed every year and a "let's abolish inflation" calculation. If you have a 30 percent tax rate, a 2 percent real return, and no inflation, the real after-tax return after 20 years is 34 percent. If you do not have IRAs, after 20 years the real return would be 10-1/2 percent, assuming 3 percent inflation. If you do have IRAs, it is 19.7 percent. That's because under the IRA system, the fact is the inflation buildup is still taxed

and so the real return is depressed. So, in fact, you have to take inflation out of the system in order to solve the problem.

MS. YELLEN. I merely meant that the existence of IRAs cuts the welfare gains from lowering inflation.

MR. LINDSEY. It cuts the gains, but by this calculation it would reduce the gains by 40 percent, not by 90 percent.

MS. YELLEN. I did not say what the quantitative impact was.

MR. LINDSEY. Okay, I just wanted to put that in. The economics profession has for 30 years gone through the functional equivalent of CRA reform by arguing that we should change the tax code for inflation indexing. We have tried, we have tried, we have tried, we have tried; we have failed, we have failed, we have failed, we have failed. It is not going to happen, and I think the reason is summed up in what is the most egregious part of inflation treatment in the tax code, and that is depreciation. Back in the early Reagan Administration, indexing depreciation was one of the proposed reforms. The companies are not for it; the Congress is not for it. When it was tried again in 1995, it just floated up there and was absolutely shot down because, horror of horrors, a company could actually deduct over time more dollars than it spent. That was considered politically unacceptable by the enlightened members of the Congress. So, we are never, never, never in my opinion ever going to index our tax code correctly. That is not a first-best solution because it is not a solution.

Second, on nominal wage rigidities, I agree with your analysis; I think it is right on target. Here is the case for reducing inflation gradually, which is where I agree with you completely. What would happen is that, over time, we would see a change in the method of compensation in the economy toward a profit-sharing mode. If we reduce inflation gradually enough, there is time for this fundamental change in compensation to occur. Then, I do not think we will have the same slope of the Phillips curve as we had before. Such a change is happening right now.

Third, I think there are a lot of other rigidities in the system. One classic example is our housing mortgage rules with which I am intimately aware and have discussed. There the solution is no inflation. So, I do think that the social gains to no inflation in the long, long term are actually greater than you suggested, Janet, and the cost, if we do it slowly and gradually and allow the labor market to get used to it, will be less than you implied. Let's move to 2 percent inflation, and I will bet that if we do it gradually, we can move lower than that.

CHAIRMAN GREENSPAN. I have a solution to your political problem regarding depreciation that we can solve. We just have to make our dollar bills smaller and smaller to reflect the loss of purchasing power. The total amount of paper would be the same.

MR. LINDSEY. The ecological effects would be the same, and we would be all set.

CHAIRMAN GREENSPAN. The real value of the currency and the value of the paper would be invariant to the purchasing power of the original outlay. I better call on Tom Hoenig! [Laughter]

MR. HOENIG. You have lost me, Mr. Chairman; I don't know where to go from there!

To address the question as you framed it in your discussion with Janet Yellen and Al Broaddus, I would like to observe that from my perspective the evidence as presented in Dave Stockton's paper and others is that high inflation is bad. Everyone agrees with that. It also is clear that, given the purpose of money, zero inflation properly measured is where we should be over time. Our experience shows that even modest inflation causes distortions over time in terms of incentives and signals in the economy and that inflation therefore lowers productivity. In my view that requires that we take the legislation that is in place now and pursue stable prices seriously. I think the mandate is there. In implementing that mandate, I would agree with Bob Parry and Al Broaddus that we ought to start somewhere. I would accept 2 percent inflation as the interim goal if we can agree on a reasonable timeframe in which we would move systematically toward that goal. I think we would be much better off doing it over some definite time period than arguing over whether we have a proper measure for zero inflation. So, I think moving toward lower inflation, defined as 2 percent, is a good intermediate goal. When we get there, we can see how the markets and producers react and discuss at that time whether inflation ought to go to zero and whether we have the right measure for inflation.

CHAIRMAN GREENSPAN. President Stern.

MR. STERN. Thank you, Mr. Chairman. I have a few random, hopefully not inconsistent, observations about all this. For me, the issues that we have been discussing are largely empirical issues. Janet knows the literature better than I do, and I certainly am willing to take her estimates. If she believes there are net benefits in going to 2 percent, then that makes sense to me. The only thing I would add to that is to go slowly to 2 percent.

CHAIRMAN GREENSPAN. Janet said "probably."

MR. STERN. Right. Go slowly to 2 percent, probably. I would add that Bob Lucas currently has a paper that also estimates significant gains from bringing down the rate of inflation. So, I would throw that into the thinking here. I would not do this with the hope or expectation that we are going to get a lot of benefits from credibility, especially in the short run. I just am not aware of any evidence of significant credibility effects. I will not get into it right now, but I think what we are talking about is going to involve some challenging implementation issues. Even capping the rate of inflation at 3 percent, while it sounds simple, may not turn out to be quite so simple at all. In fact, we may be confronted with that issue before too long. But what really concerns me about all this and why I am coming out where I am is that I want to avoid something that puts us back in the late 1970s and early 1980s kind of situation. I would like to institutionalize our anti-inflation effort to a greater degree than we have been able to do up to this point because I think an increase in inflation could really be costly. I would not be so

worried if it increased from 3 percent to 4 percent for a short period of time. We really get into trouble it seems to me when inflation goes from 3 percent to 6 percent to 10 percent and higher. I think we would benefit from institutionalizing something that would help strengthen the process to prevent such a rise from happening.

CHAIRMAN GREENSPAN. I think that is an interesting point to apply to what we have been saying. There is another side to this issue, namely whether there is a tendency for inflation to go in the other direction if we do not move toward price stability. That is an opportunity cost that has to be addressed. If Gary is right, and I suspect he may well be, that complicates the issue greatly. Governor Meyer.

MR. MEYER. Thank you. What I want to do is to sort out a little of the evolution of the debate on the costs and benefits of inflation and emphasize what is really novel in the points that Governor Yellen was making. What she has introduced with a much stronger theoretical basis is the notion of a permanent tradeoff. That is what is really novel to the debate. I also want to tell you why I think the Feldstein estimates of the benefits of lower inflation are wildly high. Secondly, I think we all can see, and it is remarkable to me at my first meeting, that we are moving very quickly to a consensus on, if not a very long-term policy, at least a policy that goes more than from meeting to meeting. That, I think, is a great thing. Finally, I do want to respond to Al's questions about opportunistic disinflation, and I want to explain to you perhaps a little more clearly how it actually works.

First of all, what do we know about the costs and benefits? I think it is very clear, from the Stockton paper in particular, that the benefits from reducing inflation when it is already high are large and clearly justify the cost associated with disinflation. What is high? What are we talking about--15 percent, 10 percent, 7 percent, all of those? We would not be sitting here arguing if inflation were in that vicinity, and we would not be having a debate on deliberate or opportunistic strategies. Unfortunately, the benefits of reducing inflation from an already modest rate are very difficult to pin down, surprisingly so, and may not justify the cost of disinflation. What people have been saying, I think, is that the benefits of very low inflation are there; it has to get to zero; price stability is always better. And yet we have difficulty actually pinning that down in our cross-country and time-series analyses. In my view--not everybody would agree--there is clearly a sizable one-time cost associated with disinflation and absolutely not a shred of evidence that enhanced credibility of the Fed from announced or legislated inflation targets reduces that cost.

One thing we should take into account is that while the cost of disinflation is high, to the extent that it is a one-time cost, we have to balance that cost against the permanent flow of benefits from price stability or low inflation. That is a very powerful argument, one that Feldstein also has made. But here is the key. There are hints that inflation can be too low as well as too high from the perspective of achieving optimal resource allocation and hence the highest possible living standards. But the evidence here remains inconclusive. This is what is really new to the debate. The debate was always between the one-time cost of disinflation and the permanent

benefits of lower inflation. Now all of a sudden we are confronted by the fact that it is not only a one-time cost that we might be willing to pay, but there might be a permanent cost of lower inflation, particularly when it gets below 2 percent. This is a theme that was not emphasized in the Stockton paper, but I think it is important. There is a stronger case that deflation is harmful to macroeconomic performance. This weighs against the price level as opposed to an inflation target. I do not think anybody has a real difficulty with that notion, but I think that is important. So when we talk about price stability, we do not exactly mean price stability in the sense of a fixed price level that we get back to.

Having said all this, I see all the different sides converging to a debate about what our provisional targets should be, not having decided whether we as a Committee believe in a deliberate or an opportunistic strategy, and I will come to that in a minute. But without deciding on exactly what the path is, we have an agreement that we want to hold the line at about 3 percent on core CPI and that provisionally we want to set a very explicit target for ourselves. We seem to be headed toward agreement on 2 percent inflation. We still have to debate how we get there, but this is a lot of progress. I think this is a good idea in terms of testing the waters, because all of these issues are still quite unresolved in my own mind. I am very worried, and again I really have not made up my mind as to whether or not there are permanent costs to price stability or very low inflation. I never taught it that way, but I am quite prepared to consider that possibility, and I think testing the waters gives us time. As Governor Lindsey said, quite possibly when we get to 2 percent inflation and we find how much we like it and perhaps how much the real economic environment may have improved, it will give us new confidence to take the next step.

Now that we seem to have all this wonderful agreement, that leaves us with one issue: How do we get from 3 percent to 2 percent inflation? That brings us to the difference between the deliberate and the opportunistic strategies. There is one strategy that was articulated by Jerry Jordan in previous meetings--I enjoyed going through the transcripts for those meetings--where he said that he would measure economic performance over 1996 and 1997 and evaluate monetary policy solely by whether inflation was lower over that period. That is not the way I would do it at all. This leads me to comment on what the opportunistic approach says and how it achieves its objective. What Al Broaddus was worried about was that recessions are temporary. They come and they go. How do we get permanent declines in inflation with an opportunistic strategy? The answer is that there is an asymmetry built into an opportunistic strategy, and here is how it works. During good times, we only get up to full employment; we never go beyond it. During other times, the unemployment rate is always above the NAIRU. If the unemployment rate averages above the NAIRU we are disinflating on average. That is what the opportunistic strategy does. What goes with that is that if you want to stop at 2 percent inflation, that has interesting implications. It means that once you get there, for every recession you treat yourself to a boom. You treat yourself to a little overheating because that is what it will take to keep the average inflation rate constant.

My final comment is, gee this is even more fun than I thought it was going to be! [Laughter]

CHAIRMAN GREENSPAN. Tomorrow morning I am going to argue that we are already at 2 percent inflation. [Laughter]

MR. BROADDUS. Hold the line at 2 percent then!

MR. MEYER. Let me tell you why I think Feldstein is wrong. The issue here is the existence of inflation non-neutralities in the tax system, for example, tax depreciation based on original cost. Inflation essentially raises the cost of capital to firms. Think of these inflation nonneutralities as being like an excise tax that is imposed on firms. What are they going to do with that? They are going to try to shift the burden. How do they do it? They shift the burden by in fact lowering investment, which lowers interest rates and forces lower interest rates back to consumers. Now, consumers can say they do not want those lower interest rates, and they can try to escape the burden of that "excise tax" by lowering their savings. But here is the rub. It is a battle between who is more sensitive--business firms or households--just as in the typical excise tax example. If firms are a lot more sensitive to interest rates than households, and that is what I believe--my best guess at this is a zero responsiveness of savings to interest rates--then Feldstein is completely wrong, blown out of the water. I have written a paper on this, though I would not want the staff to delve into my econometrics too much, but as a best approximation I find that what actually happens is that inflation induces firms to shift back the burden entirely to households in the form of lower after-tax real interest rates. Households do not escape that at all. In the process, the after-tax real cost of capital to firms is unchanged, and there is no inflation bias to the savings-investment process. That might be as extreme as Feldstein's argument.

MR. LINDSEY. You are assuming that savings are not responsive to interest rates?

MR. MEYER. Yes.

MR. LINDSEY. You assume zero responsiveness?

MR. MEYER. Yes. That might be as extreme as Feldstein, but I want to say it is no more extreme than Feldstein because the interest elasticities he has picked are so wildly out of sight from any empirical evidence, whereas mine are quite reasonably based relatively. [Laughter]

CHAIRMAN GREENSPAN. President Boehne.

MR. BOEHNE. This has already been a long day. I must say I have a lot of sympathy with the sentiments expressed by Bill McDonough. I did not have the benefit of a Jesuit training, but I have had a lot of economics, as did a lot of people around the table, and that is both a blessing and curse. As economists we like things to be clear and objective and logical. The fact is that policymaking is ambiguous, judgmental, and practical. The best we can do is to try to make some improvement from where we are and stay away from absolutes. With regard to inflation, I think the best we can do is to

hold the line where we are and move inflation down a percentage point or so over time and see where we are at that point. I think we can do that over the next several years the way we have gotten inflation down over the past few years--we take advantage of the business cycle; we take advantage of breaks when they come our way. I do think, however, that we need to put this strategy in a framework of growth. For us in the Fed to be perceived as enemies of growth is a loser. The ultimate objective of monetary policy always needs to be framed in terms of maximum sustainable growth and moving inflation down is a means to that end. If we keep it at that level, I think we can make some practical progress and have something that is salable to the general public. If we try to do a lot more in this context, I think we will let perfection be the enemy of improvement.

CHAIRMAN GREENSPAN. Hear, hear. President Melzer.

MR. MELZER. Thanks, Alan. First of all, consistent with what I have said before, I think our focus ought to be on prices. In my view, that is the only thing we really influence in the long run, and that is what our policy ought to be aimed at. I agree with what Ed Boehne said; we really are talking about a means to an end. Low and stable inflation or price stability, however you want to say it, enables the economy to reach its maximum potential. That is our ultimate goal.

My inclination would be to take what I perceive might be on the table now as an interim step. I think it is fairly easy--and I am basing this on 3 percent core CPI--to get people to buy into the fact that such an inflation rate is too high. When I talk to groups, they take notice when I point out to them that a 3 percent rate of inflation cuts the value of the dollar in half in a generation. We can make the case that 3 percent inflation is too high and that it is reasonable to move it another notch lower. I would characterize that as just another step, and would continue to describe our ultimate goal qualitatively and not quantitatively at this point. There may come a time when we are prepared to quantify our ultimate objective, but right now I would view our intermediate objective as just a step along the path to price stability.

I think we would have to be explicit about what we were doing. In other words, whatever price index we use, we should indicate that we have a particular quantitative objective in mind over a particular timeframe. I think such transparency is beneficial in terms of enabling the economy to make the adjustments that need to be made in connection with that objective. I suppose that smooth adjustment is dependent to some extent on credibility, and we would have to earn that.

This is an objective that we are setting for ourselves, but there is a benefit in my view to being explicit about it. In some ways, one could look at an opportunistic approach as somewhat misleading and likely to create uncertainty that does not need to exist. Unless we are explicit, people do not realize that we have in mind getting inflation down to a particular level, and suddenly they are dealing with the impact that our actions are having on the economy without prior knowledge of their purpose. I do not think that is useful.

I also think that taking a step in the direction that I have been describing would be useful to us in that it would force us to do more in the public education arena in terms of explaining to the public the benefits of price stability, however defined, the costs of inflation, and also some of the potential offsets. As I have said to you before, Alan, I think we have a big job to do in terms of educating the public, though I believe we are making progress. I think people recognize that the kind of business environment they have enjoyed over the last four to five years has a lot to do with relatively low and relatively stable inflation. This is a good time to capitalize on that, and I think taking an explicit step on our own and not waiting for legislation would force us to move further down that path.

Finally, just a comment on what Larry Meyer had to say about the opportunistic approach and how it works. Larry, in my experience, whenever we get to whatever the NAIRU is, people decide it is not really there and it gets revised lower. This is true of anything we pick. What I worry a little about is the mentality that I see emerging here, namely that we are not going to deal with inflation until we actually see "the whites of its eyes." That approach to policy has never served us well in the past, but in effect that is what has been happening. We get to what people thought would be the NAIRU, we do not see wage pressures, and we assume that the NAIRU must be lower. So it keeps getting revised down. At some point, if we are wrong about that and wage pressures hit us when we have not anticipated them, it is going to be much tougher to deal with the practicalities of even containing inflation at 3 percent. That concludes what I have to say, Alan. Thank you.

CHAIRMAN GREENSPAN. Governor Rivlin.

MS. RIVLIN. Very quickly. It seems to me that we have made a lot of progress despite the fact that we started with the wrong question. [Laughter] With all due respect, the question, should price stability be THE goal of the Federal Reserve--meaning the only goal--is not the right question, as President Boehne and others have said. Implicitly, the goal has got to be either maximum sustainable growth or, as I would put it, raising the standard of living of average Americans. The only way we know how to do that is through raising productivity. Now, most of us read the evidence as indicating that high inflation is detrimental to that end, but there is an empirical question as to whether the costs outweigh the benefits of getting out the last bit of inflation. Janet has made a persuasive case, I think, that there are potential costs and we need to learn more about them in getting from 2 percent to zero inflation. I think we should be very humble before we say very much about the effects on savings in going from 2 or 3 percent to zero inflation. It is very easy to show that reducing inflation increases the rate of return to savings. That is very easy. Wayne Angell does it in The Wall Street Journal this morning, and Larry Lindsey was giving us other calculations. But the empirical evidence that people actually save more when the rate of return goes up has been lacking. We have tried all sorts of experiments through the tax system and through raising interest rates and through all sorts of other things, and we have not seen clear evidence that people save more. So, I think we should be really humble about alleging that there are big advantages to be

gained through the saving rate in squeezing out the last bit of inflation.

CHAIRMAN GREENSPAN. Let me say before we go further, I need a consensus from this group as to how much time you are going to need to pack up and get to the British Embassy. It is now 6:08 p.m. We should be there at 7:30 p.m.

MR. BERNARD. The cars will be at the Watergate and downstairs here at 7:15 p.m.

CHAIRMAN GREENSPAN. It takes about 10 to 12 minutes at that hour to go from the Watergate to the British Embassy. Would somebody suggest a time?

VICE CHAIRMAN MCDONOUGH. I think we need to be at the hotel by 7:00 p.m. just to check in and put our bags away.

SEVERAL. 6:30 to 6:45 p.m.

CHAIRMAN GREENSPAN. Are you all saying that we can continue until at least 6:30 p.m.?

SEVERAL. Yes.

CHAIRMAN GREENSPAN. Governor Phillips.

MS. PHILLIPS. I think I've lost my train of thought here!
[Laughter]

I am going to be very brief. I agree with Ed Boehne that it would be useful to state our goal in terms of maximum sustainable growth and the notion of trying to achieve price stability. It seems to me that while we can set 2 percent or maybe something else as an inflation goal, I am a little skeptical that any one measure of inflation is the right one. At any point in time, I can imagine that there will be problems with a particular measure, as there are now with the CPI. Intuitively, I am attracted to the notion of the GDP deflator, but I will admit that it too may have problems at times. There may be unusual circumstances affecting the various measures, so I am hesitant to pin down a particular number. I am a little more comfortable with the notion of a range, but I think it might be useful to continue to state our goal in words as opposed to numbers and then give examples of what we see as price stability at a particular point in time.

CHAIRMAN GREENSPAN. Governor Lindsey, you have a question?

MR. LINDSEY. No, I heard the word tax again. [Laughter] You have the right to tell me to shut up, but I will otherwise persist.

MS. PHILLIPS. You did not hear the word taxes coming from me, Larry.

MR. LINDSEY. No. It is true that the economics literature does not show a correlation between the real after-tax return on savings and the rate of savings. However, in the example I gave

before, 3 percent inflation and a 2 percent real return converts a 30 percent tax rate on savings to an 80 percent tax rate on savings. No sensible person would recommend that as a sane policy. That's not because of this elasticity with respect to growth, but because it is distorting and unfair within the tax system. What it does is to induce people to "save" in other forms that are quasi-consumption oriented, which causes an untaxed stream of benefits. Now, given that they do all that--hold more "saving" in the form of more jewelry, more land, more housing, rather than financial assets--that is a very different proposition. I see everyone shaking their heads that they agree with me; maybe that is to encourage me to be quiet. [Laughter] I will take it as assent with my point that what you measured as the elasticity is not the "be all and end all" of policy here.

MR. MEYER. Even if there is no change, it is still unfair if savers are forced to accept that lower rate of return.

MR. LINDSEY. It is still unfair.

CHAIRMAN GREENSPAN. Can I switch the subject? Since we have now all agreed on 2 percent, my question is, what 2 percent? Let me present the issue more specifically. You can ask the question, what is the inflation rate as appropriately measured, which implies that we can measure it. Or you can ask what is the appropriate inflation indicator that we should focus on, recognizing that it is not appropriately measured and has various biases.

There are three fundamentals here. We can continue to use the consumer price index as we have done over the years and in my judgment increasingly inaccurately. I think that is potentially very disadvantageous for us from a policy standpoint. The consumer price index is flawed with respect to the biases that are in it on a continuing basis, although it is evident that very significant improvements can be made and indeed are being made by the Bureau of Economic Analysis. Clearly, as Roberts pointed out, the PCE chain-weighted index, whether excluding or including the energy and food components, is unquestionably far superior as a measure of the real consumer inflation rate, including the biases.

Alternatively, we can go further and ask, why not use the gross domestic purchases inflation measure? Here again we have the problem of chain estimates that are superior to previous estimates that used the implicit deflator as a meaningful indicator, which it was not. Here we have the question of what to do about imports. When we endeavor to focus on a price, should we be concerned about the price of imports? I will put it another way: Do we wish to use the gross domestic purchases index, with or without food and energy? It may seem that this is not a relevant consideration, but I think it is a very significant consideration because, in the current environment, prices of producers durable equipment are falling. We do not quite measure it that way and our indexes do not quite come out that way. However, it is apparent that even as badly as we measure it, using prices of producers durable equipment as a proxy for consumer prices clearly is not in the appropriate lexicon. Since we have already come to a major conclusion, I will ask, what in the world are we talking about? If anyone would like to address that issue, be my guest.

MR. PARRY. It seems to me that when Janet and Al were talking, they had implicit in their minds something like a CPI or core CPI. They were able to generate some consensus or agreement about the desirability of reducing the rate of CPI inflation from its current level of about 3 percent down to 2 percent. That is the critical point. If one wants to focus on a different index, let the staff make a suggestion and maybe we will start out with an inflation rate of, say, 2 percent and go down to 1 percent. I do not think that is the critical issue. I think the critical issue is --

MS. MINEHAN. Hold the line where we are.

MR. PARRY. Hold the line and come down one percentage point. That is the critical issue.

MR. BROADDUS. And be explicit about it.

MR. MEYER. What do you think the PCE deflator is now?

MR. PARRY. I don't know.

CHAIRMAN GREENSPAN. It is 2 percent.

MR. PARRY. Okay.

MR. MEYER. So we are there. Congratulations.

MR. PARRY. No, you miss the point.

MR. MEYER. I came too late to take credit for it but I am an instant winner. [Laughter]

MR. PARRY. I think you have missed the point. They were not talking about that.

MR. MEYER. But the PCE is clearly a superior measure.

MR. PARRY. That's fine. Then we will start with 2 percent inflation and go to 1 percent.

MR. MEYER. We know that there is a measurement issue. Let us say that the PCE has less of a measurement bias but not a zero measurement bias. It may be 1/2 percentage point; it may be a percentage point, and you still have the issues of the permanent tradeoff that Governor Yellen talked about. I do not know that you can say that you should go from 2 percent to 1 percent. Maybe 2 percent inflation as measured by the PCE is where you want to be.

MR. MCTEER. If you want to change the measure, you have to change the numbers.

MS. MINEHAN. We also are not talking about going from 2 percent to 1 percent overnight or in the context of the next few months. We are talking about making a change toward lower inflation, however we are measuring it, using whatever measure. We are moving in the direction of lower inflation over a period of time to the extent that that is consistent with the maintenance of favorable conditions in the economy overall.

MR. MEYER. But we get back to the issue of whether inflation can be too low as well as too high. We have to take up that point. What are the benefits of a percentage point reduction in inflation, given that it is already 2 percent? Those are the things we have to weigh.

MR. PARRY. So, you did not agree with the consensus that they reached?

MS. YELLEN. I am sorry. I agree with Governor Meyer and would support the statements he has made. I regret that I have not thought through this measurement issue carefully, and so you should not take my 3 percent and 2 percent inflation numbers as necessarily focusing on the CPI.

CHAIRMAN GREENSPAN. I submit that we do not really need to until we get to the question of whether our goal is 2 percent. Two percent of what? It is a perfectly credible argument to say, whatever the inflation rate is now, that it should be lower. That is an unambiguous statement. Members can have their own particular measure and say, I think it is 4, I want to go to 3 or I think it is 1, it should go to zero. Everyone is in agreement with that.

SPEAKER(?). Instead of choosing, let's use all of them.

CHAIRMAN GREENSPAN. If you put a number down, the question inevitably is raised as to what you are talking about unless you want a Jesuitical solution that bypasses the whole question.

VICE CHAIRMAN McDONOUGH. My view is that we could make a contribution to the societal debate by figuring out what the best inflation measurement is. If it is not the CPI, we should decide what we think it is. It will not be perfect, but if we can determine what is the best one, then we ought to sell that as the inflation rate people ought to be looking at.

CHAIRMAN GREENSPAN. There is another element that has not been raised and that is the question, what is the real federal funds rate? In principle, we should be deflating the federal funds rate, to the extent that we think of it in real terms, by the same price index we would want to use to determine when we are getting to stable prices. This matters because, as I will tell you tomorrow, the decline in the real federal funds rate since its peak is very importantly a function of which measure is used. The decline can range from 0 to 50 basis points, and that is a big deal. It matters.

MR. STERN. Another big deal would seem to be, though, that if we want to calculate the real funds rate or something like that with a different price variable, we need a time series to put it in perspective. It is not just how it has performed over the last couple of quarters, but where it stands relative to history.

CHAIRMAN GREENSPAN. Absolutely. We need a time series.

MR. STERN. Exactly. It seems to me that there is another issue we have to think a little about, and this is not a defense of the CPI. My guess is that to the extent that labor contracts,

government pensions, and the like are actually indexed to something, they are indexed to the CPI or some variant of the CPI.

CHAIRMAN GREENSPAN. The cost-of-living escalator in labor contracts is rapidly becoming obsolescent.

MR. STERN. I understand that, but there is still some of that around. The social security cost-of-living measure still uses the CPI, I believe.

CHAIRMAN GREENSPAN. Let me put it this way. I think there is a growing consensus that using the CPI on all the government programs is something that we should veer away from. If we were to go to the gross domestic purchases price index or something like that, it would not change the world, but I will bet that it would have some effect on this sort of discussion.

MR. STERN. No, I was not trying to defend the CPI. I was trying to acknowledge that it has an institutional role. It may not be as important as it once was, but it is still there. It may have something to do with the estimates that Janet cited about what the Phillips curve is like if inflation is at a very low level because some of the institutions are tied into the CPI. That is my point.

CHAIRMAN GREENSPAN. I agree with you. I think they are. Fortunately, I don't think there is a large number of them with the exception of the federal government. The CPI is a diminishing element. Thirty to forty years ago, it was sacrosanct.

VICE CHAIRMAN MCDONOUGH. Could I follow up on that? If we come to a conclusion as to what we think is the right inflation rate and, going back to Governor Yellen's presentation, it turns out to be a rate where 33 percent of the firms in the country have to force nominal wage reductions, it will not fly. The American people will not find it acceptable. It will not be something that the central bank can live with over an extended period of time because it is likely that either other people with different views would be taking our seats or our responsibility would be transferred to an institution that the people found more sympathetic. So, I think the inflation number that we will find acceptable will never be zero. It will be some number above zero, hopefully better measured than it is now. I think we also should rely less on our instinctive reactions and seek to quantify better that deflation is truly a bad thing, not just because it sounds bad but because of the very real costs that it imposes on the economy.

CHAIRMAN GREENSPAN. I think there is a problem in that when inflation is up to 5, 7, or 10 percent, people have an implicit view that there is a floor below which inflation cannot go. It is the issue of nominal interest rates. People look at nominal interest rates and say, if they are down to 1 percent, get them as close to zero as possible. No one ever suggests getting nominal interest rates to minus 2 percent. But I do not think people are aware that there is no sound barrier at zero. First of all, people do not know when we are there. There is nothing visible as a signpost when we go through zero and into deflation. That therefore makes it a very difficult issue.

My own view, as I have stated many times, is that our goal should be price stability. But I do not think we should have a naive view as to what is required to get there or what it means when we get there and what we do when it is no longer rhetoric but action that we need to maintain it. I believe that we underestimate the productivity effects that occur at those levels. The analogy would be that as a particle moves to the speed of light, its mass changes. My own view, which is probably going to be determined to be correct eventually-- in the year 2252--[Laughter] is that as the inflation rate goes down, the tendency for nominal wages not to come down will enforce cost-cutting improvements and technological changes. It is not that low or stable prices are an environment that is conducive to capital investment to reduce costs, but rather that it is an environment that forces productivity enhancements. It forces people who want to stay in business to take those actions--such as cutting down the size of the cafeteria, reducing overtime, and taking away managers' drivers--that they did not want to take before in the ordinary course of business in a modest inflationary environment because it was easier then just to raise prices to maintain margins. If you force the price level down, you induce real reallocations of resources because to stay in business firms have to achieve real as distinct from nominal efficiencies. That phenomenon is what price stability means to me, and I see it as a very complex issue. When we first talked about it in the context of a 10 percent or so rate of inflation, we could just have an academic discussion.

VICE CHAIRMAN McDONOUGH. Sure.

CHAIRMAN GREENSPAN. But now we are getting there and the question is basically whether we are willing to move on to price stability. The question really is whether we as an institution can make the unilateral decision to do that. I agree with you, Mr. Vice Chairman. I think that this is a very fundamental question for this society. We can go up to the Hill and testify in favor of it; we can make speeches and proselytize as much as we want. I think the type of choice is so fundamental to a society that in a democratic society we as unelected officials do not have the right to make that decision. Indeed, if we tried to, we would find that our mandate would get remarkably altered.

Let me ask just one quick question that relates to this issue. It relates to the question of the gross domestic purchases index versus the GDP deflator. How would we wish to respond if oil prices doubled? If oil prices doubled and the United States were fully self-sufficient in crude, then this question would not come up. Assume that we are effectively out of domestic crude and the oil price doubles. The effect would be that, unlike the GDP deflator, the gross domestic purchases index would veer very dramatically.

MR. LINDSEY. But it is a level change, not a permanent increase.

CHAIRMAN GREENSPAN. No, take a look at the Greenbook. In the first quarter of 1997, the GDP deflator goes up .1 percent from the fourth quarter of 1996. The gross domestic purchases index goes up by .7 or .8 percent because we have an assumption of a significant rise in crude oil prices at the beginning of the year.

MR. LINDSEY. What happens in the second quarter?

CHAIRMAN GREENSPAN. It is not relevant.

MR. LINDSEY. Right, that is the point. That is what I meant by a level change.

CHAIRMAN GREENSPAN. But supposing the price level goes up again in the second quarter and up again in the third?

MR. LINDSEY. That would require a constant acceleration in oil prices.

CHAIRMAN GREENSPAN. Yes, sure.

MS. MINEHAN. With feedback.

CHAIRMAN GREENSPAN. How do we respond to that? The GDP deflator is 2 percent. I can create a scenario where the GDP deflator is 2 percent and the gross domestic purchases index is 5 percent.

MS. PHILLIPS. It would eventually work its way into GDP at some point.

CHAIRMAN GREENSPAN. Over the long run, oil prices would work their way through but never fully. That's because there would be a significant shift to domestic natural gas. The economy would go back to using more coal, and we would have much smaller cars. So, the higher oil prices would filter through only partly.

MS. PHILLIPS. But focusing on GDP, you are still going to be addressing the question of an external oil shock.

CHAIRMAN GREENSPAN. Yes. That is a relevant issue. It is not a hypothetical question. You are talking about a 2 percent inflation goal. What do you do in this situation?

MR. HOENIG. Hasn't all the discussion allowed for taking shocks to the system into account? It is not that we would immediately react dramatically to bring down the rate of inflation.

CHAIRMAN GREENSPAN. But there are different types of shocks, and there are all of these different alternatives. At this point I will merely suggest that we adjourn. It is 6:31 p.m. We actually have made far more progress today than any remote expectation I had. We will reconvene at 9:00 a.m. tomorrow.

[Meeting recessed]

July 3, 1996--Morning Session

CHAIRMAN GREENSPAN. We will now discuss the long-term ranges of the monetary aggregates, and I will call on Dave Lindsey.

MR. D. LINDSEY. Thank you, Mr. Chairman. [Statement--see Appendix.]

CHAIRMAN GREENSPAN. Thank you. Questions for David?

MR. LINDSEY. How much tighter is the tighter alternative?

MR. D. LINDSEY. A quarter point increase for the next four FOMC meetings, so an upward adjustment of 100 basis points by year-end.

CHAIRMAN GREENSPAN. President Parry.

MR. PARRY. I want to ask a question about the simulations in Bluebook Charts 2 and 3. They have interest rate implications that can affect the growth of the aggregates over the long term. PCE inflation has averaged about 2-1/2 percent in the last two years, and it was as low as 2.1 percent in the last four quarters. The simulations you ran allowed the PCE to get up to 3 percent. Is that consistent with holding the line on inflation in an opportunistic approach? It seems to me that if you were assuming an opportunistic approach, you would have taken something like 2-1/2 percent or 2.1 percent and your decision rule would have been to keep it at that level. Your assumption does not seem consistent with being either deliberate or opportunistic.

MR. KOHN. When we designed this, we had to design it around the Greenbook forecast, which already had some uptick in inflation. Our design process was to level out the PCE and not allow it to rise any further. In the baseline run, the solid line reflects the fed funds rate assumption in the Greenbook and then shows what tightening has to be implemented at the end of the forecast horizon to stop inflation from rising perceptibly further. The other simulation does start the tightening earlier and levels out the inflation rate a little sooner. But you are right; in both cases, the small acceleration in PCE inflation that is in the Greenbook stays in for the most part.

MR. PARRY. It really gives one the impression that holding the line on inflation is a relatively painless process when in fact holding the line on inflation truly may be very painful.

MR. KOHN. In order to bring inflation back down to 2-1/2 percent, we would need at least the beginnings of a tighter policy.

MR. PARRY. Thank you.

CHAIRMAN GREENSPAN. President Jordan.

MR. JORDAN. David, John Carlson on my staff has been doing some work with MZM [Money with Zero Maturity]; have you looked at that recently?

MR. D. LINDSEY. Yes, I looked at the chart that I got from him yesterday. We have done a little work on MZM. That chart and our earlier work do not show anything like the breakdown in the velocity/opportunity cost relationship that has occurred for M2 in the 1990s. On the other hand, judging by that chart and the econometric work we have done, MZM has a rather substantial sensitivity to movements in short-term interest rates and thus opportunity costs. Therefore, it does not recommend itself as an intermediate guide to policy. The example I like to think of in this regard is that if nominal spending starts to drift up sufficiently to cause a problem with inflationary acceleration and the Federal Reserve tightens a little, the result could be to drive the growth rate of a very interest-sensitive aggregate back down at the same time that nominal GDP is still spurring ahead. Inflation could get out of control by insufficient, gradual increases in short-term rates even though we would be keeping this interest-sensitive aggregate well within a range. This is a problem that harkens back to the situation that developed with M1 after the introduction of super NOWs in the early 1980s. Indeed, I think the fundamental reason why the Committee deemphasized the M1 aggregate was that it had become too interest sensitive to be of use as a normal intermediate target.

MR. JORDAN. I think your analysis is right about the dangers of using MZM if something causes an acceleration of inflation so that we get a misreading of what that indicator is telling us. But it is somewhat less interest sensitive than the old M1. We have the problem of sweep accounts with the M1 measure that we do not have with MZM. So, I would suggest that you drop the M1 measure, continue to produce the charts and the opportunity costs because it will get more and more difficult to make sense out of these sweep adjustments, substitute MZM, pay attention to it, and let us see how it behaves over time. Its opportunity-cost relationship is strikingly tight.

MR. D. LINDSEY. Yes. I am somewhat sympathetic to that suggestion. Obviously, we do not currently target M1; we do not currently put much weight on it. Clearly, the sweep-account problem, which involves these adjustments only for the initial sweeps, is making it more and more difficult over time to have confidence in M1, even after sweep adjustments. I am a little sympathetic to that idea. I will not speak for my division director, however. [Laughter]

CHAIRMAN GREENSPAN. We will assume that you just did! Any further questions for David? Before we go around the room, let me just repeat what the structure of the discussion was when we looked at this issue back in February. I must compliment the staff for indicating then that growth of the broader aggregates was likely to run at the upper end of the ranges that we chose, and, indeed, that is precisely what happened. Therefore, I think we can have confidence that such growth will continue as the staff suggests. The crucial issue that I think is confronting us, to repeat what I said last February, is not how we would set these ranges if we were dealing from scratch in a wholly analytical environment. It makes very little sense to choose a range in which expected M2 growth remains in the upper half of the range. One would presume that we would automatically adjust the range up a notch to surround the staff forecast.

In my judgment, were we to do that, we would be signaling that M2 is back in the ball game. But more importantly, I think we would be signaling an element of acceptance of inflationary forces. That is not what we would intend, but it would be interpreted by some as conveying that meaning. At the moment, despite the evidence that David Lindsey produced suggesting, I think with some reasonableness, that M2 is beginning to look like a useful indicator once again, we have not said that publicly. We have in no way indicated that we have taken M2 out of the deep recesses of the statistical dungeon in which we have placed it. I am concerned that we would gain very little in stirring the pot at this stage. Were there a reasonable expectation that M2 would run well above the ranges, then I think we would need to have another type of discussion. As far as I can see, we need to have some very strong reasons to deviate from a range that we presume would encompass the type of M2 growth we would expect in the event that we ever reached the nirvana of a stable price level. Frankly, I would caution against stirring the pot at this stage even though the arguments that will be made are unquestionably appropriate, namely, that it makes no sense purposely to set a range knowing full well that the actual tracking of M2 is highly likely to remain around its upper limit. To my knowledge, no one has commented on that fact since we adopted the range in late January. Were we to change the range, we would raise potentially a new set of concerns, a new set of indicators to measure Fed behavior, and a new view of an FOMC less interested in constraining inflation. All in all, I cannot say that I am intrigued by the thought of changing what we did last January. That is a deep-seated prejudice that I have decided to expose! [Laughter] Governor Lindsey.

MR. LINDSEY. Mr. Chairman, even though you did not utter the word "tax," I am going to respectfully disagree. [Laughter]

CHAIRMAN GREENSPAN. With respect to tax policy? [Laughter]

MR. LINDSEY. If you had uttered the word "tax," I probably would have disagreed respectfully or something.

As you stated, Mr. Chairman, we set a range that we thought was going to be consistent with our intermediate- or longer-run targets for inflation. The number that I heard yesterday was 2 percent inflation as an interim target. The number that I heard on expected growth was 2 percent. And 2 plus 2 equals 4.

CHAIRMAN GREENSPAN. Only in a nongraduated income tax structure! [Laughter]

MR. LINDSEY. That is probably true. The first consideration is that the midpoint of the Alternative II range is 4, and that range is therefore consistent with our stated purpose in setting a range. Second, even though there may be an argument over what the word "tighter" means in the shorter run, if we tighten 100 basis points this year, M2 growth will still be near the upper end of the Alternative I range. Next year, it would fall to the middle of the range under a policy that we would all acknowledge to be "tighter." The word "tighter," if translated into a monetary aggregate, means to me that we are running our monetary aggregate below a normal rate because we are deliberately trying to disinflate. Under the tighter

scenario, our nominal GDP is not 2 and 2. It is 2 and 1-1/2 or something like that.

I also disagree about how perceptions would be affected. Frankly, I do not think that there is any perception out there that we are aggressively easing policy. I do not think that is true in the bond market. The risks in that direction may have existed in the past, but I do not think they exist now. With regard to why we would be raising the range, the answer is that it is a technical readjustment just like M3 was last July. In your testimony, you can state that, Mr. Chairman. No one here is arguing that M2 should become the pinnacle of monetary policy again. We are reporting these ranges only because it is required by law. Because it is required by law, we have a moral responsibility to report a range that is reasonable and consistent with what we actually are going to end up with.

CHAIRMAN GREENSPAN. Incidentally, before we go forward, Governor Lindsey referred to a matter that reminded me how very important it is for all of us to recognize the highly confidential nature of what we talk about at an FOMC meeting. We all have seen some evidence recently of Fed officials mentioning what the Committee was going to do or what was being said at our meetings. There was even a rumor of what somebody thought somebody else thought that I thought! That sort of thing serves us very poorly. The discussion we had yesterday was exceptionally interesting and important. I will tell you that if the 2 percent inflation figure gets out of this room, it is going to create more problems for us than I think any of you might anticipate. I beseech you all, especially those of you who have not heard this speech before--and there are a number in this room who have not--to realize that it is very damaging to this institution when anybody conveys information from inside the System concerning what members of this group are thinking or what the FOMC is likely to do.

You are all free to indicate what you think the economy is doing. You have the right -- but I would suggest not exercising it -- to indicate how you are going to vote. That is a bad idea, but you certainly have the right to do it. What you do not have the right to do is to talk for the Committee. No one has that right. I do not have that right. Certainly, to do so is a major disservice to this institution, and I ask you in the strongest terms to remember who has FOMC clearance when you discuss FOMC matters. Most of our leaks, as best I can judge, occur when somebody in this room speaks to somebody else at their Banks or in other institutions, and it is they who leak to the press. My impression is that security in this room is good with respect to direct access to the meeting. What happens is that you go home and you tell somebody, who does not have FOMC clearance, that it was an interesting meeting. That person, who may be on the staff at a fairly high level, tells somebody else that it was an interesting meeting and guess what? That is the type of thing that you have to avoid. I am sorry to interrupt our discussion at this point, but it was precisely Governor Lindsey's allusion to the 2 percent that triggered my concern about this. So, please keep this in mind. President Jordan.

MR. JORDAN. Thank you. I agree with your initial remark about the message that would be sent by changing the ranges and to me that consideration dominates. But with regard to the substance of the

ranges that we announce and any information content they may have, we know that the lags are fairly long. It is not just 1997 that we need to be thinking about, though that is what we have to announce, but 1998 and later. If evidence should emerge that the velocity of M2 is stabilizing at essentially a zero drift or trend, we would then want to cap nominal income growth. In Governor Lindsey's 2 plus 2 example, would we want to be considering a world in which nominal spending rises faster than 5 percent? I do not think so. I think holding the range at 1 to 5 percent sends the message that we are capping total spending growth at no more than 5 percent, allowing for the real growth in productivity and making certain that inflation is still on a downward trend. So, I think it would a mistake to shift from the current 1 to 5 percent range.

CHAIRMAN GREENSPAN. President Melzer.

MR. MELZER. Alan, I agree with what you have suggested. I do not want to prejudge the outcome of this meeting, but it is possible that we will not take any action with regard to our short-run policy. In that event, I would not want to take any action with regard to these ranges. As you suggested, that might lead people to misconstrue the posture of this Committee with respect to inflation. So, I think it makes sense to leave the M2 range unchanged. The other thing I would say is that, even though these aggregates have been on the bench for a while, I do not believe we can afford to ignore them totally over longer periods of time. One of the problems is that even if we move to some sort of inflation target, we have to be very forward-looking in that regard. In other words, our actions probably have their impact on inflation with a one- to two-year lag, and I think monetary aggregates can be very useful interim guides, not from meeting to meeting but over longer periods of time. So, I believe there is a policy role for the monetary aggregates once we are sure that velocity relationships have stabilized.

CHAIRMAN GREENSPAN. Vice Chairman.

VICE CHAIRMAN McDONOUGH. Mr. Chairman, if we were starting out from scratch I would be in favor of Governor Lindsey's position. But we are not starting out from scratch, and as you suggested the message likely to be given by a change in the ranges would be an unfortunate one. We also have to live with the other issue that Governor Lindsey very correctly mentioned, which is that we have a statute that we are supposed to be observing. Therefore, I think one would assume and hope that, in presenting the ranges, you would repeat something along the lines of your statement in February to make it clear that the aggregates are likely to grow at rates around the upper ends of their ranges. Another reason why I would like to retain the current ranges is that a change would be likely to take on an importance far beyond its merit and divert attention from what I hope will be the main message of your Humphrey-Hawkins testimony. That message is that price stability is not an enemy of growth. The contrary notion is far too much alive in the land, and so it is very important for us to confront that issue head on. I would not want anything, including specifically a change in the ranges, to create a diversion and have people focusing on that rather than on the really important issue, which is that price stability is the way that we achieve sustained economic growth and is in no way the enemy of such growth.

CHAIRMAN GREENSPAN. Governor Yellen.

MS. YELLEN. I agree fully with Governor Lindsey's reasoning on this along with his assessment of the likely consequences of saying that we have made a technical adjustment. I would certainly grant that our Humphrey-Hawkins report has honestly stated that the ranges in Alternative I encompass the Committee's expectation for growth of M2 under conditions of price stability, and we said in the report that we thought M2 growth would be near the upper end of the range. All that is true. But what we are required to do, as the Bluebook notes, is to communicate to Congress our objectives and plans for growth of the aggregates for the calendar year, taking account of past and prospective developments in employment, prices, and other factors. The latter do not include what we view as the likely ranges under conditions of price stability. My sense is that this is not a big deal. I think we should simply do what we were asked to do in the Humphrey-Hawkins legislation. We would say that we are making a technical adjustment; we made a technical adjustment to M3 in July of last year. I would note, incidentally, that I have dissented twice before on this issue; Governor Lindsey has dissented once. No one, not even a reporter, has ever called me to ask whether there was a deep monetary policy disagreement among the FOMC members or whether we had lost our commitment to price stability. I have never heard one word from any reporter about this. I have said that I dissented for a technical reason and the boredom factor set in so rapidly that no one wanted to hear another word about it. I believe that is what would happen now.

CHAIRMAN GREENSPAN. I got your message. I am just curious. Has anybody been asked about the targets of late?

SEVERAL. No.

CHAIRMAN GREENSPAN. President Broaddus.

MR. BROADDUS. Mr. Chairman, I agree strongly with your recommendation and for the reasons you stated. As I mentioned yesterday, I think monetary policy has to have some long-term anchor. In the absence of an explicit inflation target, I see the need to maintain this range, which is centered around the longer-term rate of M2 growth that we think is consistent with price stability and sustainable economic growth. This is a substitute. It is not a perfect substitute, but I think it is a better substitute than the higher range. So, I feel strongly that we should maintain it.

CHAIRMAN GREENSPAN. President Guynn.

MR. GUYNN. Mr. Chairman, I would join those who argue that the risk of an unintended signal effect from a change at this time, even though the probability may be very low, is a risk we just do not need to take. At least for the moment, that argument substantially outweighs in my view the argument for a technical adjustment. So, I would support leaving the ranges where they are.

CHAIRMAN GREENSPAN. President Stern.

MR. STERN. I agree with those who think that the case for leaving the ranges unchanged at this point is a strong one. I

certainly would welcome renewed usefulness of M2, but I do not think the evidence, while it may be encouraging, is sufficient yet. As a consequence, I don't think we ought to raise its profile or prominence. We are not getting any questions about growth around the top of the ranges, and there is something to be said for letting sleeping dogs lie.

CHAIRMAN GREENSPAN. President Moskow.

MR. MOSKOW. Mr. Chairman, I agree with your recommendation and with the way Gary Stern phrased it. I think there is a serious risk that increasing the ranges would be misinterpreted, primarily because of what we have done in the past. Since we have not changed them in the past under similar circumstances, why would we suddenly want to do so now? Another point is that, after our very important discussion yesterday about longer-term objectives for core inflation, the time to change these ranges, if we are going to do that, is when we have a better idea of what policy we are going to propose in terms of our longer-term objectives on inflation. We may want to go to the Congress, as was suggested yesterday, for that type of discussion, and I personally think we should. It just seems to me that the appropriate time to change these ranges would be when we have a better idea of what our longer-term objectives on inflation are going to be and how we are going to present that to the American people.

CHAIRMAN GREENSPAN. President Boehne.

MR. BOEHNE. I think one can argue this issue either way. It is not an issue that elicits strong feelings on my part one way or the other. On balance, I would prefer to keep the ranges as they are. My primary reason is that you are the spokesman for the Committee; you are the one who has to present the Humphrey-Hawkins testimony. If you feel more comfortable with the approach you recommended, I am prepared to support it.

CHAIRMAN GREENSPAN. President Parry.

MR. PARRY. Mr. Chairman, I certainly support your recommendation for the reasons you stated and those that were mentioned by others. However, I would like to make an additional point. I think we ought to keep in mind that the projections that we have here are staff projections based upon the staff's baseline economic forecast. Quite frankly, I think that it is not the best forecast for the next two years. As the next two years unfold, I would expect to see a rise in interest rates and in that event the growth of the aggregates is likely to be less. So, I think the idea that higher ranges are more consistent with everyone's forecast is a mistake in the first place.

CHAIRMAN GREENSPAN. President McTeer.

MR. MCTEER. I agree with your suggestion that we not change the ranges and only partly because I think a change might give the wrong impression. Raising a range because our projection is a little higher is a little like drawing a target around the bullet hole in the wall. I think we ought to take the M2 range fairly seriously, be concerned if there is a prolonged period of M2 growth above 5 percent,

and not forget about this aggregate as a potential signal for us to do something.

CHAIRMAN GREENSPAN. Governor Meyer.

MR. MEYER. Mr. Chairman, I am uncomfortable with the current procedure embodied in Alternative I for setting the target ranges of M2 and M3, particularly M2 in this discussion. It seems to me that this approach is quite inconsistent with the spirit and the letter of Humphrey-Hawkins. I believe it also differs from the public perception of the logic underlying those ranges among even the relatively well-informed Fed watchers in the private sector. I think it fails totally in communicating policy intent. Many believe that we are trapped here and they fear the loss of credibility that, they assume, would follow the upward adjustment of the target ranges that is required to make them consistent with both the staff forecast and the spirit of Humphrey-Hawkins. Now, in commenting on that, my particular approach may be sharper than I intend, but it seems to me that it is like trying to use bad policy to compensate for bad communication. What I mean is that if we are worried about communicating policy intent to the public, we have a lot of opportunities to do that in testimony, speeches, and otherwise and we ought to do that. I do not feel that we ought to compensate for our inability to communicate effectively by setting target ranges that are so inconsistent, or that are at least mildly inconsistent, with the staff or our Humphrey-Hawkins forecasts.

Now, I am uncomfortable about maintaining indefinitely what I consider to be a ruse, and I think at some point we will probably regret it. At this time, however, I am going to defer to the judgment of the Chairman, but I hope that between now and the next time I have to vote on this issue, we will find some means to improve the way that we handle the monetary growth ranges.

CHAIRMAN GREENSPAN. President Minehan.

MS. MINEHAN. I, too, am in favor of your recommendation, Mr. Chairman, for many of the reasons that have been expressed around the table. I think it is a communication device. With only a few technical exceptions, all the changes we have made in the ranges over the years have been to reduce them consistent with our objective of fostering progress toward stable prices. At this point, I think keeping the M2 range where it is will send the message that we want to send concerning our reasonably near-term objectives relating to price stability.

CHAIRMAN GREENSPAN. Governor Kelley.

MR. KELLEY. Mr. Chairman, I have no strong feeling about the ranges themselves, but I do feel strongly that the management of the issue is important. In that sense, I strongly support your recommendation.

CHAIRMAN GREENSPAN. Governor Phillips.

MS. PHILLIPS. It is certainly premature to restore M2 and M3 to their full status as policy indicators, but I do think that we should recognize that they are performing a bit better in terms of

velocity and GDP growth. I thought David Lindsey's chart presentation was extremely useful, and I particularly liked the first chart that shows the upward migration in M2 velocity. I thought that was very helpful. But it also points out that we do not yet have a lot of dots along that green line for the period since the start of 1994, while there are a lot of dots around the black line for the period from 1960 to 1989. I thought that chart put the recent history into perspective. But I do think that money remains an important monitor for monetary policy, and I believe it would be useful in our Humphrey-Hawkins report to discuss the fact that M2 growth deviated from its historical pattern for a period of time but that it now appears to be coming back. Like Governor Meyer, I am uncomfortable with the current ranges, but I do not want to use them as a monetary policy signal. So, I agree with your proposal not to change the ranges at this time, but I think we should beef up our discussion of the monetary aggregates in the Humphrey-Hawkins report.

CHAIRMAN GREENSPAN. President Hoenig.

MR. HOENIG. Mr. Chairman, I am for leaving the ranges unchanged. First of all, Dave Lindsey made a good point in the sense that, although his chart on velocity suggests more stability over the past 2 years or so, it is still too early to come to any firm conclusion. Secondly, I think changing the ranges systematically involves more than explanations. It involves raising questions in people's minds as to whether we have changed our attitude about our long-term goal for inflation. Governor Lindsey makes a point in terms of 2 plus 2, but I think that requires another discussion. It is 2 plus 2 for some, but it may be another number for others, depending on what they view as a proper measure of inflation, and that would affect where they want to set the ranges. So, a lot more discussion is required before we undertake to change these measures systematically.

CHAIRMAN GREENSPAN. Governor Rivlin.

MS. RIVLIN. I, too, am somewhat uncomfortable with the whole discussion, as I think everybody is. I would go along with your recommendation, but I think we ought to think seriously over the next few meetings about whether ranges are in any sense an effective policy tool or whether we are going to have a continued discussion at each meeting about the symbolism of something that really is not being used as a policy tool anymore.

CHAIRMAN GREENSPAN. We inadvertently got ourselves into this box, and it occurred in a context of M2 beginning to veer off from expected relationships. At the moment, we are at the lower end of potential target ranges largely because M2 was tracking close to zero for quite a long period of time. We had the problem for a protracted period of being perceived as allowing M2 to run near the bottom or even significantly under its target range. As a result we did--I don't want to use Bob McTeer's language--move the target down over the years.

SPEAKER (?). We did draw the target around the bullet hole!

CHAIRMAN GREENSPAN. Clearly, there is something fundamentally wrong here. There is no doubt about that. But before we play with these ranges, I would prefer that we concentrate on

qualitative discussions with respect to M2 and elevate M2 if in fact it begins to deserve more emphasis as an indicator. I do not think there is any doubt that we are in an unsustainable position. It makes no sense. If M2 ceases to be useful at all, it would then become just an appendage, which would be unfortunate. But since it looks as though it is coming back, we are going to have to confront this issue.

For the moment, there does seem to be at least a grudging consensus to stay where we are. I will ask Normand to read the appropriate language. I ask you all to listen to it just in case, in view of our discussion, we want to change a few words here or there.

MR. BERNARD. I will be reading from page 20 in the Bluebook. The first sentence is the standard one: "The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output. In furtherance of these objectives, the Committee reaffirmed at this meeting the ranges it had established in January for growth of M2 and M3 of 1 to 5 percent and 2 to 6 percent respectively, measured from the fourth quarter of 1995 to the fourth quarter of 1996." Moving down the page a bit: "The monitoring range for growth of total domestic nonfinancial debt was maintained at 3 to 7 percent for the year. For 1997, the Committee agreed on tentative ranges for monetary growth measured from the fourth quarter of 1996 to the fourth quarter of 1997 of 1 to 5 percent for M2 and 2 to 6 percent for M3. The Committee provisionally set the associated monitoring range for growth of total domestic nonfinancial debt at 3 to 7 percent for 1997." And the standard ending sentence: "The behavior of the monetary aggregates will continue to be evaluated in the light of progress toward price level stability, movements in their velocities, and developments in the economy and financial markets."

CHAIRMAN GREENSPAN. Would somebody like to move?

VICE CHAIRMAN McDONOUGH. So move.

CHAIRMAN GREENSPAN. Is there a second?

MR. KELLEY. Second.

CHAIRMAN GREENSPAN. Call the roll.

MR. BERNARD.

Chairman Greenspan	Yes
Vice Chairman McDonough	Yes
President Boehne	Yes
President Jordan	Yes
Governor Kelley	Yes
Governor Lindsey	No
President McTeer	Yes
Governor Meyer	Yes
Governor Phillips	Yes
Governor Rivlin	Yes
President Stern	Yes
Governor Yellen	No

CHAIRMAN GREENSPAN. Now we will move on to current monetary policy issues. I call on Don Kohn.

MR. KOHN. Thank you, Mr. Chairman. [Statement--see Appendix.]

CHAIRMAN GREENSPAN. Questions for Don?

MR. MELZER. Don, when you think in terms of long-term real interest rates, where do you conceptually put the uncertainty premium about inflation? Is that in the real component?

MR. KOHN. Yes, it is and that is because it has always been there. When we think of these things, we do it based on history, and the uncertainty premium has been in the real rate historically. I think that would be another reason why the real rate might move around over time. If people are less uncertain now than they were 10 or 15 years ago, and it is quite likely that they are, then you might think in terms of a lower equilibrium real rate.

MR. MELZER. So, if I were comparing a time when a rise in real rates was strictly due to a change in real activity--real supply and demand were the sole contributors to an increase in real rates--I would distinguish between that situation and one where perhaps some of the increase was due to greater uncertainty about future inflation. That makes the comparison very difficult.

MR. KOHN. In thinking further about my answer to your question about where the uncertainty is located, I believe we have to be careful. There is uncertainty in financial markets that leads them to demand a higher real rate premium. But we also need to think about the individuals and the businesses that spend the money. My answer assumed that they also were uncertain about the outlook for inflation and that uncertainty would damp their spending at given interest rates. If that uncertainty does not affect them, then we have a different situation. The equilibrium real rate probably would not have declined in that case. But I think uncertainty probably does play into spending decisions as well as saving decisions, and so it might be reasonable to think that with less uncertainty, the real long-term equilibrium rate would be lower.

CHAIRMAN GREENSPAN. President Jordan.

MR. JORDAN. Don, I want to ask you about your relative confidence level for variables used in your forecast. But in view of your response to Tom Melzer just now, I am not sure whether I should rethink the question. In your prepared remarks, you used the Philadelphia Fed survey of expected CPI inflation, but the Bluebook looked at the PCE to draw conclusions about the real rate. The critical variables in the staff forecast are the assumption that the real fed funds rate is 2-3/4 percent, some measure of inflation and inflation expectations--the sort of thing we discussed yesterday--and the NAIRU versus current unemployment. With the nominal 5-1/4 percent funds rate and with inflation measured by the PCE, one would say that we were at a 2-3/4 percent real funds rate, that inflation is in the zone of 2 percent, and that unemployment is whatever number is going to be reported on Friday for the month of June; it has been in the area of 5-1/2 percent. So, what is the problem? The problem in this framework is that the inflation rate has to go up from where it is because current unemployment is below the NAIRU. That rise in inflation will reduce the real fed funds rate unless we raise the

nominal fed funds rate. The only way we can get from where we are to equilibrium is through that mechanism. The confidence question is: If you look at your key component variables, where would you say the weak links or the strong links are located? Is your confidence in the 5-3/4 percent NAIRU instead of, say, 5-1/2 or 5-1/4 percent? Is it in the 2-3/4 percent real fed funds rate versus 2-1/2 or 2-1/4 percent? Or is it in a particular measure of inflation or inflation expectations?

MR. KOHN. I would have to say that I am not very confident about any of those measures. There is a band of uncertainty around them all. I do think that, as Mike Prell has commented--and I think Governor Meyer said this yesterday as well--there used to be more confidence about the NAIRU calculation. In Mike's chart yesterday, we saw a lot of scatter points around the regression line, but they were fairly tightly bunched. However, the more recent information raises questions about the level of the NAIRU. I think our estimates of inflation expectations are a very weak link. We really do not have a fix on that. The Philadelphia Fed survey is very arbitrary because it is a survey of professional economists and, as highly as we might think of them, they are not necessarily representative of savers and investors in society. The Michigan survey has its own problems. It seems, at least in terms of the means, to be skewed toward too high a number. I have very little confidence in our projection of inflation expectations or knowledge of what they actually are currently. I tend to look at how they are changing, not in terms of levels. If several surveys and other indicators are all moving in the same direction, that might suggest that inflation expectations are moving the same way.

On the PCE versus the CPI, I think one answer is that, if it is just a level adjustment, it is not a problem because we are comparing the calculated real rate relative to history. We can revise historical and current values and the gap remains the same. But I think the point that the Chairman made yesterday--and one that you will hear again shortly--is that we might be getting very different signals from the CPI and PCE, not just a level adjustment but different information about what is going on in the economy. That is obviously a much bigger problem than just making a level adjustment.

MR. JORDAN. What about your assumption regarding the real fed funds rate?

MR. KOHN. Once again, I think the assumption about where the equilibrium fed funds rate is situated is very shaky. When we look at history, we have to conclude that things move around, other things are not equal, the equilibrium real fed funds rate varies, and as I said in my briefing, that sort of exercise is at best only a starting point for thinking about the much more complicated issues relating to developments in financial markets.

MR. JORDAN. You have made me feel a lot more confident!
[Laughter]

CHAIRMAN GREENSPAN. President Hoenig.

MR. HOENIG. Don, I want to follow up on your reference to financial markets in terms of policy actions now or later. It strikes

me that there has been a fair amount of run-up and perhaps even some artificiality in some of the financial markets, such as those for IPOs or indeed whatever market you want to talk about. You indicated what the effect might be on the stock market if we made a tightening move now. But if there is a certain degree of artificiality, what would be the effect of waiting, and what is the relative risk that we run by letting that market run up further and then moving versus moving now and letting the market adjustment occur and spill over to the real economy?

MR. KOHN. I guess that depends a bit on what you think will happen if you do not move. One hypothesis would be that, if you do not act now, in Mike's words, gravity will take over and the market will begin to correct itself even without the Federal Reserve. In that case, waiting to act might even be a positive in the sense that by the time you did act, the market already would be at more reasonable levels and less likely to overreact to our tightening action. On the other hand, if that correction were not going to occur, if the froth were to remain in the market, I think your question contained the germ of the answer. The more people build that froth in, the more likely you are to get a strong reaction. That is one interpretation of what happened in 1994, in the sense that we had a low funds rate for a very long period of time and a very steeply upward sloped yield curve. As economists, we could say that a steeply upward sloped yield curve means that markets expect us to tighten; such an action should come as no big surprise. The Chairman had testified several times telling the markets we would be tightening. Yet, when we embarked on a tightening course, which was widely anticipated, I think a lot of people who thought they would be the first out the door actually got caught. Everybody ran for the door at the same time, and there was a rather strong reaction in financial markets.

CHAIRMAN GREENSPAN. Any further questions for Don? If not, let me hold forth for a little longer than usual because I think, as Governor Kelley indicated yesterday, that we are in one of those watershed periods that requires deeper deliberation on monetary policy issues than we have had to face at many of our meetings.

The current period reminds me of our struggle several years ago to cope with the breakdown of M2 as a forward-looking indicator, as David Lindsey has amply demonstrated. You may recall that in the older regime a slowdown in M2 growth was an indicator of increasing policy restraint, but as the breakdown of M2 became increasingly evident we resisted taking action largely because the collateral information that was available failed to confirm the usual meaning of a sharp rise in income velocity. Current business indicators point to significant strength in economic activity and raise serious questions as to whether we are running up against the type of resource constraints that in the past have been a harbinger of a dangerous breakout of inflationary forces. Yet, there is something disturbingly wrong with this picture: The rate of inflation still appears to be falling; the growth in compensation per hour is 50 to 75 basis points under the rates suggested by past relationships; and the operating profit margins of domestic firms have continued to expand far later into the business expansion than is typical. As a consequence, like the M2 episode only in reverse, we have held in check our normal

response to tighten in the face of the accelerated current business expansion.

In my judgment, we have done so wisely because the credibility of the Federal Reserve System is at stake here. I am not referring to the important but narrow issue of maintaining, and being seen to maintain, the purchasing power of our currency but to the perception that we as an institution know what we are doing. Are we perceived to understand the changing forces that are driving our economy, or are we viewed as working with obsolescent models? We have recognized the crucial need to be forward-looking and preemptive with our policies. But to be successful in that, we must understand the economic structure through which our policies will play out. To gain the public's acceptance of our policies and our ability to respond to inflation threats in a timely manner, the public has to have confidence that the Fed knows what it is doing. Without prejudging the current evolution of economic forces, which I will get to momentarily, if we are perceived to have tightened and then to have been compelled by market forces to quickly reverse, our reputation for professionalism will suffer a severe blow. This will weaken our future ability to raise rates in a dramatic, preemptive fashion in order to contain inflationary forces at an early stage.

We are an independent central bank in that our decisions are not subject to reversal by any other agency of government. Our existence and ability to function, however, are subject to acceptance by a public and a Congress who exhibit decidedly asymmetric propensities in favor of policy ease. The reputation that we have achieved as nonpartisan professionals enables us to function. The public and the Congress may not understand what we are doing, but they trust us, hopefully as they trust the family physician who is prescribing today's version of castor oil. I assume that everyone here is old enough to remember castor oil! [Laughter]

We obviously are viewing an economy that at the moment does not resemble most of our textbook models. The unemployment rate is low and has remained low for quite a while. Anecdotal evidence continues to indicate tight labor markets, but with little evidence of significant wage acceleration. We also have a strong economic expansion under way, with industrial commodity prices falling even excluding the plunge in copper prices. Broader measures of price inflation are, if anything, still declining. There are, however, two disturbing numbers that suggest the old model may be operative. The first, of course, is the very disturbing ECI wage and salary figure for the first quarter. The second is the recent fairly significant rise in delayed deliveries in the June NAPM report. Most other data, however, are not supportive of a rising inflation trend. To be sure, average hourly earnings have been rising at a fairly pronounced pace in the last two or three years. But as we discussed yesterday, that series shows very little change when we look at the conversion by the BLS to a chain-weighted basis. Indeed, in the 12 months ended in May, it was up 2.9 percent versus 3.4 percent for the published average hourly earnings. The CPI is becoming increasingly obsolete, as I explained yesterday. The more analytically accurate core PCE chain-weighted price index is increasing now at a rate of about 2 percent, as is the core gross domestic purchases chain-weighted price index, with the increase in both measures declining since 1995. The

hypothesis that the inflation rate has stabilized is very difficult to sustain with this data system.

This result is consistent with the insecurity wage gain hypothesis that I have been discussing here for the last 12 to 18 months. It is not proof that the structure has changed, but we will never have definitive proof on which to act in a timely manner if our policy is forward-looking. We may in retrospect make very professional and impressively robust econometric estimates of what has been happening and conclude that, indeed, a significant tradeoff has occurred between wage gains on the one hand and job security on the other in the context that I have discussed in the past.

The basic thesis, as you may remember, is that the economy can be viewed as having a family of functions relating to the real growth rate of earnings, all with the same slope but with different tradeoffs between wage gains and job security. These data suggest that we are moving from one level down to another. If that is in fact what is happening, one would expect to see the rate of change in hourly earnings fall below previous expectations and profit margins to widen, though by less than the gain from lower wage costs because part of the latter feeds into declining price inflation. Specifically, this data set is consistent with a lower track of real or nominal earnings growth, say, until 1993, but it also is consistent with the reemergence of the old business activity-inflation models after a transition period because, remember, we are then back to the earlier, higher rate of change although at a lower level. For those who would like a more analytic exposition of this type of model, I recommend a paper that is being written by Janet Yellen. I am certain that she will make it available to those of you who wish to read it.

For those who are wedded to the Phillips curve format, the translation of the 50 to 75 basis point shortfall in the growth of compensation per hour is the equivalent of a perfectly tracking Phillips curve with a NAIRU of 4-1/4 to 5 percent. With as yet only limited evidence that domestic operating profit margins are contracting, it appears that the transition postulated in this hypothesis is still under way. A falling inflation rate underscores this. But let us be careful. Even this hypothesis postulates a one-time move of the goal post. Inflation is not dead. As we again get closer to the new goal line, the old inflation pressures will reemerge.

Indeed, there is reason for concern in that regard. To be sure, second-quarter GDP growth is the result of the rebound from a number of retarding factors--the GM strike, the government shutdown, and the inclement weather, with the latter having had a very material effect especially on state and local construction. However, accelerating economic growth from whatever cause always has the potential to generate accelerating inventory investment. As I indicated at the last FOMC meeting, I am concerned that we may be underestimating the potential for an upward adjustment in inventory accumulation. If this occurs, then I think we are subject to much stronger than expected third-quarter and possibly fourth-quarter expansion in the context of extended lead times and perceived shortfalls in safety stocks. Even a just-in-time environment gets overridden in that type of situation. With the income effects that spill over from inventory investment, it is very easy to draw a

sequence of events that can create much stronger GDP growth than we have in the Greenbook.

It is too soon to know whether the current surge in the expansion will gradually vanish and fail to ignite inventory growth or whether the wealth effect will support PCE, with a lag, on a higher track than is shown currently in the Greenbook. Fortunately, we have the luxury of waiting at least for a short while to see what develops. While I would not describe our monetary posture as tight, it is scarcely accommodative. Real federal funds are only marginally below their peak of last year. In fact, using the broader deflator, that is, chain-weighted gross domestic purchases, we have not reduced the real funds rate at all. The economy may surprise us and accelerate at an unexpected pace, moving to the new goal line fairly quickly. This may require action on our part, possibly even before our next meeting.

Accordingly, I would hope that this Committee, while accepting alternative "B" to give us the opportunity to assess what is going on, would nonetheless accept an asymmetric bias toward tightening with the understanding that no move would occur without a prior telephone conference. We have to be aware in this particular context that to reverse direction requires a somewhat higher hurdle of evidence than would be required if we were merely continuing a previous trend of monetary policy moves. Given the recent history of sequential policy moves, any move in a new direction would suggest to the markets that there will be additional moves in the same direction. Although we could endeavor to disabuse the markets of that, my suspicion is that we would fail. My judgment is that in all likelihood, if the Committee does not move at this meeting or during the intermeeting period, we probably will do so at the August meeting or later. It seems quite unlikely to me, looking at the data now, that we will luck out and find the economy expanding at a pace that would not necessitate moving. But as I have said, I think we have time to look, largely because in my judgment our current posture is not that far from the mark. Vice Chairman.

VICE CHAIRMAN MCDONOUGH. Mr. Chairman, perhaps one of the chores that goes with being Vice Chairman is that after such a very interesting and demanding presentation, one fills the vacuum, giving other people some more time to think. [Laughter] Agreeing with Governor Kelley's remark yesterday that we are at a watershed, I found myself sitting up straight at 4:00 this morning thinking about the responsibility that places on us as a Committee. It is very clear that the Federal Open Market Committee cannot carry out its responsibility without the support of the American people whom we serve. We deserve that support, which we have, and we will retain it only if we are deemed to be responsible and sensible. That is something about which I perhaps feel particularly strongly because I am the only permanent voting member of the Committee who is neither nominated by the President nor approved by the Senate. Therefore, I think one has to be very aware that we do serve the people and that we are not members of a university faculty or a discussion group. Rather, our purpose is public policy, which is a lot tougher than being on a faculty or a member of a discussion group.

We are in a period of very considerable uncertainty as to exactly where the economy is or where we are vis-a-vis price stability. My own guess is that we are either at or very close to

what might be the upper end of a price stability range. In light of Governor Yellen's presentation yesterday, which explained that there are very real and continuing costs to a reduction of inflation at these very low levels, I believe very strongly that before we do something we should be certain that what we are doing is right. Therefore, it should encourage us to be courageous when we need to be courageous but to have the courage to do nothing when that is the right thing to do, which is, I think, where we are now.

At the same time, we are clearly in a situation in which the real economy could operate more strongly than the forecast says it will, and therefore I think it is equally important that we use the asymmetric directive. For the new members of the Committee, there are three interpretations of what an asymmetric directive means for every member of the Committee, but in this case I think it is clear what it means. It means, as the Chairman stated, that it is not at all impossible that we will see enough incoming data of a kind that will lead us to the conclusion that we have to tighten before the next meeting. In any event, I think there is a reasonable likelihood that we will decide at the next meeting that we have enough information to warrant a tightening move at that time. Therefore, those who share my view that price stability is what we do for a living because it is the road to sustained economic growth have to remember that we are not talking about whether the infidels are replacing the zealots or even whether we are a group of more or less tough-minded people. All the Chairman is recommending, which I very firmly endorse, is that we recognize that we do not know enough to make a firm decision at this point, but we do know enough so that our watching has to be particularly attentive. Therefore, an asymmetric directive toward firming is appropriate.

CHAIRMAN GREENSPAN. President Broaddus.

MR. BROADDUS. Mr. Chairman, I have not yet had the opportunity to read Governor Yellen's paper, which I look forward to doing. But not having read it, I am reluctant at this point to deemphasize what you refer to as the "old model." It seems to me that the information we heard yesterday suggests that the economy is currently robust, with the risks dominating on the up side rather than the down side. I think it is instructive, as was pointed out this morning, that even if the Greenbook baseline projection materializes through 1997 with no change in policy in 1996 and 1997, the Bluebook analysis still says that an upward correction of 50 basis points, maybe more, is going to be needed to contain inflation in the longer term. Moreover, in the Bluebook discussion of short-run alternatives, the point is made that if we want to tilt inflation down, we may have to raise the federal funds rate "considerably"--I believe that is the term used--or by more than 1/4 percentage point before the end of this year.

With these considerations in mind, I think the case for a tightening of policy today is a strong one. I personally believe that a solid case can be made for an increase of 50 basis points in the federal funds rate. If we were to do that, I believe there would be a credibility benefit that could be substantial. A decisive move like this would tend to reduce uncertainty in financial markets and elsewhere about the ultimate extent of the tightening we might be contemplating. We could announce that we expected a midcourse

correction like this to bring the economy back to a sustainable longer-term growth path with declining inflation, and that might help to reduce the potential reaction in financial markets. I could support such a move, but I realize that that may not be an option today. In any event, I think that a move of at least 1/4 point is necessary. The key thing we need to do now is to reaffirm our disinflationary credentials by reversing the two moves we made last winter.

CHAIRMAN GREENSPAN. President Parry.

MR. PARRY. Mr. Chairman, news on the economy since our last meeting has strengthened my view that it would be wise to raise the federal funds rate at this time. We cut the funds rate in January because an apparent moderation in growth was reducing inflationary pressures and because we wanted to guard against the risk that the expansion might weaken even further. Since then, the economy has surprised us with its strength. Growth in the first half of this year appears to have exceeded the trend rate by quite a bit. Indeed, my concern now has shifted to the substantial risk of rising inflation. In that situation, whether one is an opportunist or of the deliberate persuasion, strong action is called for. In my view, these considerations support a 50 basis point increase in the federal funds rate. However, given that an increase would represent a change in the direction of policy and would be a surprise to the market, it may be prudent to limit ourselves to 25 basis points at this meeting and an asymmetric directive.

Mr. Chairman, I also would like to comment on your presentation, which I found very interesting. It highlighted many of the uncertainties about the analytical framework that we are using to deal with policy issues. I also thought that the emphasis on the PCE chain-weighted index was quite instructive. I would recommend that we put on for a day a principled opportunist's hat and suggest to the Board staff, and perhaps also to our own staffs at the Banks, that they look at what would be involved to keep the PCE chain-weighted index, maybe not at the 2.1 percent that it has averaged over the last year, but I would be willing to say at 2-1/2 percent. That would be consistent in my view with containing inflation. It might be very interesting to see what the policy implications of that would be.

CHAIRMAN GREENSPAN. President Minehan.

MS. MINEHAN. I have not heard anybody arguing that the risks are not on the up side. I agree with the Greenbook and other forecasts that we are likely to see moderation in growth over the second half of the year. But even with that, both the Greenbook and most other forecasts see an uptick in inflation. The Greenbook sees that measured on a CPI basis and the Bluebook sees that measured on a PCE basis. Now, it may be that we are measuring inflation inaccurately. It may be that the trend has been down, not sideways, and that there is room to move up a bit. But if I took anything out of yesterday's discussion, it was a desire to hold the line at where inflation has been, however that is measured.

Our forecast in Boston, like many others, is based on standard analytical techniques that look at relationships between overall capacity and pressures on inflation as measured by the CPI.

Our forecast assumes, as do all model forecasts, that the past is a guide to the future. I do not know how these models work with other measures of inflation, but I must say that I continue to be uncomfortable with the assumption that things have changed in a major way and that, while rising inflation occurred under similar circumstances in the late 1980s, it will not happen now. I am attracted to the analytical framework that you set up in your discussion about moving down in a sense to a different curve and then starting from there. I find that interesting in the context of all the discussion about job uncertainty, but I am still a little uncomfortable with it.

I know we have not seen many signs of rising inflation yet, and one could argue that, as measured by the PCE, there may have been a decline in inflation. However, I do not think that we should wait to see it rise before acting, given the backward-looking nature of any inflation statistic. Moreover, the feel of the economy, the availability of credit, the resilience of the housing and auto markets so far, the possibility that the economies of some of our major trading partners may be healthier than we thought earlier, and the ebullience of the stock market even with the modest downturns of late, all suggest to me that to be appropriately forward-looking we should move now. That said, I do recognize the special circumstances surrounding an increase in the federal funds rate when it would be a turning point. Inflation is not a major concern to the public. In fact, the concern lies in the opposite direction, as you have so clearly pointed out, Mr. Chairman.

We are at a watershed, as others have said, and we need to be careful as we were in 1994 in laying the proper groundwork for the move that I think we all recognize we probably will have to make during the latter part of this year. I hope that we can start conveying to the market and to the public in general that there are risks and we perceive them to be on the up side. We could make this communication in the Humphrey-Hawkins testimony and in that way lay the groundwork for what I assume will be a necessary move at the August meeting. I could be wrong, but as I think you indicated in your comments, I believe we will have to move at the August meeting. I accept your recommendation for today. I have had misgivings about not taking action, as I have said in the past, but I am okay with it at this time. I would like to see us set the groundwork for a move in August. Therefore, I would be in favor of an asymmetric directive, which to me means that if there were a need to move before the next meeting, there would be a phone call and we would talk about it. My definition of asymmetry at this point is that it reflects the direction the Committee sees the economy moving. It is not a commitment by any means, but it indicates a direction and it will send a signal when the directive is released to the public. So, I am okay with your recommendation. I would vote for asymmetry if I had a vote.

CHAIRMAN GREENSPAN. President Hoenig.

MR. HOENIG. Mr. Chairman, after listening to you, I have a better sense of the difficulties in this process--the uncertainty about the model or analytical framework that we use to assess the incoming data. I also appreciate Bill McDonough's comment that we need to have the public's confidence and support. I think, though, that we ought to be careful before we abandon the model we have been

using, as some members have said already. I would be reluctant to abandon such a model given our past experience. Our projections suggest that there will be increases in inflation, although the change in our inflation measures introduces a confusing element. Given the upside risks that are associated with the projections and weighing that against the downside risk of a small tightening move, I think there is a very good case for moving now. If I were voting, I would put it in that context. But I probably would say that the asymmetric directive toward tightening that we have on the table gives us an appropriate direction for policy and we can wait for increasing evidence at least until August. I would be willing to wait that long, but I really think that a small move now would have tremendous benefits in the long term.

CHAIRMAN GREENSPAN. Governor Lindsey.

MR. LINDSEY. Mr. Chairman, yesterday I thought Governor Meyer laid out two issues very well. One of them is how GDP will grow relative to trend. Your analysis showed exactly how we would respond. If we saw a rise in inventory accumulation, to use your example, that suggested a sustained, above-trend rate of economic growth, we would move right away. That is in fact why you are recommending an asymmetric directive. I do not think there is any disagreement about that. The other issue, to simplify it in terms of the labor market, is where the existing unemployment rate is relative to the natural rate, the NAIRU. I also have not read Governor Yellen's paper, which probably has had about the best press so far of any paper in history for a paper that may not yet be finished. [Laughter]

MS. YELLEN. It is just a little note.

MS. MINEHAN. You mean it is short.

MR. LINDSEY. With both religion and economics, we tend to be schismatic. The Episcopalians can't sing from the Presbyterian hymnbook, and that is always a problem. But let me see if I can put what has been said before in an ecumenical sense. Jim Stock had a very interesting paper earlier this year on the NAIRU in the last three decades. He observed that it has been highly variable. Yes, if one had to pick a number and bet on it for 30 years, one would pick something like 6 percent. But it has been as low as 5-1/2 percent and as high as 8 percent. Let me talk about the 8 percent number, for example. It came during an adverse oil shock. What exactly does the term NAIRU mean? It means the level of unemployment we have to attain to stop inflation from accelerating. An oil shock produces a lot of inflationary impetus in the economic system. To prevent an acceleration of inflation, the unemployment rate has to rise sharply and put downward pressure on wages to overcome the oil shock and hold inflation in place. The lesson is that the NAIRU is variable, but changes in it due to supply shocks are temporary. The NAIRU in his story came back down again after the oil shock ended.

Mr. Chairman, when I heard you mention the numbers 4-1/4 and 5 percent for the NAIRU, that set off alarm bells. The way I interpreted what you just said is that given the rate of disinflation we recently experienced, the current level of unemployment, and the usual relationship between the amount of disinflation and the difference between the rate of unemployment and the NAIRU, you backed

out an implied NAIRU. But that is a temporary NAIRU. I do not think we would gamble policy on the presumption that we have permanently reduced the natural rate to 4-1/4 or 5 percent. A backlog of fear--this is my word for it--generated by the layoffs and the downsizings and whatever else in the early 1990s, created what we could think of as a positive supply shock, and the labor markets temporarily pushed the natural rate that low. It will not stay that low, and we should not bet that it will. What does that mean for short-run policy? I think you have it exactly right. You told us how we are going to respond to a demand-side shock or surprise, and I think the natural rate probably is much lower right now than it has been historically. But it is there only temporarily. The stock of fear that pushed the natural rate down will wear off. We do not know how fast that will occur, but we had better be prepared to respond when it does. I think we have reached the right solution in whatever New Age church [laughter] it may be that you are describing.

CHAIRMAN GREENSPAN. Governor Meyer.

MR. MEYER. Mr. Chairman, while I recognize that I arrived at an interesting moment for monetary policy, I must admit nevertheless that I did not agonize over my position for the monetary policy directive for this meeting. Although it may still turn out to be a close call as to whether or not we tighten going forward and as early as August, I am very comfortable with your recommendation for no change in policy at this meeting and an asymmetric policy directive.

There are four good reasons for no change in policy at this time. First, if you accept the staff forecast and take an opportunistic approach to future disinflation, then I think there are no strong grounds for tightening today. The staff forecast suggests that, with the current monetary policy settings, we can sustain an expansion at a trend near capacity with nearly stable core inflation through 1997. I fully support an effort to achieve this outcome.

Second, and I think quite importantly, my own perspective on the outlook reinforces this desire to the very minor extent that my outlook differs from the staff projections. While the staff simulations provide a plausible picture of the acceleration of inflation if the unemployment rate is slightly below the NAIRU, my normal high confidence in this gap story is undermined by the extraordinarily well-contained state of core inflation across virtually all measures. I for one would need to see either a decline in the unemployment rate below its recent range or an acceleration in core inflation measures to justify a tightening.

My third argument is a little different, Mr. Chairman. In recent testimony you presented a compelling discussion of the Federal Reserve's position vis-a-vis growth. I have, as you might suspect, a heightened awareness of the political sensitivity of this issue as I spent several months with little else to think about. [Laughter] As I understand your position, the Federal Reserve does not have a growth objective per se. Once we achieve acceptable resource utilization rates and acceptable inflation readings, at least on a near-term basis, we will happily accept all the growth the economy will produce. I accept this logic. Tightening today would contradict that position. We should not tighten solely on the basis of one quarter of above-trend growth when utilization rates are not definitively signaling

overheating and when inflation readings suggest inflation remains in check. This is perfectly consistent with a transition to price stability over the longer run, albeit by the opportunistic camp's time schedule.

Fourth, we will have a wealth of additional information at the August meeting. At that time, we will be in a much better position to assess the potential that growth will remain above trend. As we enter the second half we will be better able to determine whether the strong growth over the first half has depressed the unemployment rate below its recent range and to judge the degree to which wage pressures may indeed have intensified and whether or not there is any pass-through to prices. I am referring here specifically to the advance report on second-quarter GDP, where the mix will be very interesting; the next two employment reports; a second-quarter employment cost report; and a whole variety of monthly data that will condition our understanding of the economy's momentum heading into the second half. My first two points make clear that there is little danger in waiting, and my last point indicates there is great benefit from doing so.

Now, a word about symmetry versus asymmetry. I had a quite interesting time reading the transcript of the last FOMC meeting, and I am somewhat acquainted with the various meanings of the words. But it really is interesting how symmetry means so many different things to different people. We are all asymmetric in our policy posture, deciding here whether we are going to hold or increase the federal funds rate. Nobody envisions a decline in the rate between this meeting and the next. Most of us can envision situations where we would have to raise the rate. All of us recognize that it will be a tough call at the next meeting, so I would have thought that the tilt in the directive for this meeting would be an easy call. Personally, I am asymmetric and would feel more comfortable with an asymmetric directive. From my reading of the last transcript, it does appear that some members of this Committee read into the distinction between symmetry and asymmetry differing degrees of permissiveness with respect to a move between meetings initiated by the Chairman. This may be a fair interpretation also. I am confident, Mr. Chairman, that you would consult with the members of this Committee in the intermeeting period before initiating a reversal of the direction of monetary policy. With that caveat, I fully support an asymmetric directive.

CHAIRMAN GREENSPAN. Governor Phillips.

MS. PHILLIPS. Thank you, Mr. Chairman. Based on the increased upside risks, I think that a tightening of policy is going to be needed in the next several months, but I am a bit more optimistic than the Greenbook on inflation. I am not convinced that a large increase--or a series of increases--in the federal funds rate is necessary. In that vein, a tightening move could be delayed. I am generally ambivalent on asymmetric directives, but based on the upside potential for the economy and the attendant inflation risks, it does seem to me that the case for tightening has strengthened. Asymmetry would allow for an intermeeting move. It seems to me that measures of price inflation and the ECI are particularly important information. In that regard, I would still urge a phone call.

CHAIRMAN GREENSPAN. President Boehne.

MR. BOEHNE. The future usually bears some resemblance to the past, but the future is almost always different from the past. I think we are in one of those situations now where we do not know how much different the future will be. I believe most of us feel as we talk to people in our Districts that it may be more different, at least for a while, than we have become accustomed to. That higher degree of uncertainty ought to make us more cautious about taking steps at this meeting, and I feel very comfortable about keeping policy the same.

Looking ahead, clearly the case for tightening and the probability that we will have to tighten in the coming months would be fairly high under the old model. That may indeed turn out to be the case. On the other hand, it may not turn out to be the case because we may be able to remain on an unchanged policy course longer than we now anticipate under these conditions without accelerating inflation. So, while I am prepared to support an asymmetric directive, it does not automatically mean in my mind that we are setting ourselves up for a tightening. That may indeed be necessary, and I think we need to be watchful. Should conditions arise where we have to tighten, I think we ought to do so and we ought to be decisive about it. But I do not know when that tightening will need to occur, whether it will be next month, the month after, or six months down the line. For today, I agree that we should make no change in policy, be very watchful, and keep an open mind as to what we ought to do at the next and subsequent meetings.

CHAIRMAN GREENSPAN. Governor Rivlin.

MS. RIVLIN. I am very comfortable with your recommendation, Mr. Chairman. It is extremely hard for us to explain the current set of facts to ourselves with the models that all of us have been using, implicitly or explicitly. I am intrigued by your construct, but very frankly none of us really knows what is happening. It seems to me that moving now to tighten policy would demonstrate that the Federal Reserve has a knee-jerk reaction to growth even when we have not seen any clear evidence of increases in compensation, let alone in prices. I think it would be a mistake if we were to tighten because the economy is stronger. It is unclear to me what an asymmetric directive conveys. I asked several people, including you, and I got very different and confusing answers and now I do not want to know exactly! [Laughter] My personal guess is that we will be in the same quandary in August. We will have more information, but we will still be unsure about exactly what is happening. But I see no reason not to admit to ourselves that we could have a shock that would occur in the intermeeting period that would cause you to do what I assume you would do anyway, namely get on the phone and say, what do we do now? So, I would go along happily with your recommendation.

CHAIRMAN GREENSPAN. President Stern.

MR. STERN. Thank you, Mr. Chairman. I think you focused the discussion appropriately on the underlying inflationary process and on the questions of what we know or do not know about it. I certainly would admit that I do not know as much about it as I would like. The world may indeed have changed, but even so, if I understood you

correctly, the change involves a transition having to do with concerns about job security and so on. Some other things that strike me about the economic environment at the moment are that financial conditions seem to be what I would describe as generally permissive. Credit is readily available on attractive terms. Wealth effects stemming from the run-up in stock prices ought to be sizable. I guess we have been cautious in terms of how we have built that into our model as have some other models as well. It seems to me that bond market participants clearly are not convinced at this point that inflation is dead or even dying. I think there is still a significant inflation premium in long-term interest rates. Having said all that and having looked at the available information, my judgment is that the economy and its momentum are likely to be relatively strong. My preference would be to raise the funds rate 1/4 percentage point now. I view that in part as taking out a little insurance that the old model will reassert itself more quickly than we expect. Certainly, a 1/4 point move is not going to trigger any tailspin in economic activity. It also seems to me that under all the circumstances at the moment, such a move could be at least a start of a policy to bend inflation down a bit further, and it may be just the right thing to do.

CHAIRMAN GREENSPAN. President Melzer.

MR. MELZER. First of all, I think the prospect of rising inflation is the biggest risk we are facing in the economy in the coming months. There is no question in my mind about that. I also think policy is in an accommodative stance from a number of different perspectives. So, I conclude that we ought to move now, and I would be inclined when we do move to do so aggressively. By that I mean that I would raise the federal funds rate by 50 basis points, and I would combine that with a 50 basis point increase in the discount rate.

CHAIRMAN GREENSPAN. President Guynn.

MR. GUYNN. Thank you, Mr. Chairman. As I indicated in the earlier go-around, I, like most others, expect the economy to slow in the coming quarters, leaving us with a rate of growth without increasing price pressures that perhaps can be achieved with our current policy stance. I would like to give things a chance to play out a bit more. Certainly, this position requires that one be of the view that our current policy position is not accommodative. Unfortunately, like many of the other issues we have faced and talked about in the last two days, we cannot demonstrate that categorically. Based on my review of information from financial markets as well as competing forecasts, I am not convinced that current policy is adding fuel to the current inflation environment. As Don reminded us this morning, it is equally clear that we probably are not reducing general price pressures at the moment except to the extent that a continued experience of slow, relatively stable inflation works to temper concerns about our commitment to a low inflation environment. I would prefer to see us keep policy unchanged for the moment. I, too, would be comfortable with an asymmetrical directive as long as it is not an irreversible leaning, making us feel compelled to move at the next meeting even if conditions do not seem to support that move. Thank you.

CHAIRMAN GREENSPAN. Governor Kelley.

MR. KELLEY. Mr. Chairman, it is very correct to be suspicious of the notion that this time things have changed. That is a classic trap. It is frequently a loser's cry, and I find myself very uncomfortable supporting that notion. By conventional standards I think the case to move now is somewhere between strong and compelling. But I also think that there are very strong indications that things have indeed changed. Maybe the better question--it is at least for me--is whether this change is temporary and whether it will turn around very soon. If it does go back toward a more conventional experience, will it look the same as it did historically? I would compare this to the recent history of M2 that we discussed earlier this morning. M2 tracked along very well, very conventionally for some number of years, went badly off the track for a while for reasons that were hard to understand at the time, and now seems to be coming back again. The nature of the M2 episode is beginning to be better understood. That may be in the process of happening here as well. But the presumption either that things have not changed or, if they have, they will immediately return to the traditional relationship, carries its own dangers and its own uncertainties. The better part of valor is to try to get as good a reading as we can get as things progress before we commit one way or the other. As a consequence, I strongly support your notion of a "B" directive and can support asymmetry.

CHAIRMAN GREENSPAN. President McTeer.

MR. MCTEER. Mr. Chairman, I can support your recommendation. I could also have supported a recommendation for tightening today, had you made it. On principle, I prefer not to tighten monetary policy on the basis of strong output and employment growth or even a low unemployment rate. I know that we should not wait to see the "whites of inflation's eyes" before acting, but I do think we might well wait for some leading indicators of rising inflation before we act. That they are strangely missing does suggest to me that something is different in 1996. With respect to symmetry, I believe the Baptist religion prefers symmetry, but I do backslide occasionally [laughter] and am happy to do so today.

MS. MINEHAN. Baptists have a point of view on this?

CHAIRMAN GREENSPAN. Try to top that, Governor Yellen!

MS. YELLEN. I can't, Mr. Chairman! I agree with your analysis and many of you have been eloquent in expressing thoughts that I agree with: the Vice Chairman, Governor Meyer, Governor Rivlin, President McTeer, and others among you. I can certainly support the recommendation to leave the funds rate where it is with an asymmetric directive. I agree that the risks are unbalanced at this stage, and I certainly can envision a set of data between now and our next meeting that would justify in my mind a move following a phone call. But I agree with you that there is a great benefit to waiting and watching a while longer to decide how things are going. I consider this a period of great uncertainty. To my mind, the most serious risk at this stage is that we simply do not know how demand is likely to behave going forward. I think that if we have significantly underestimated the continuing robustness of aggregate demand so that we see a significant reduction in labor market slack in coming months or, alternatively, if our assumption that something has changed in labor markets is clearly

proving to be incorrect, we will be compelled to move and I will certainly support those moves. I found the Bluebook policy simulations and also the Taylor Rule computations useful. To my mind, they mean that we are roughly correctly positioned at this point; we are in the neighborhood of the equilibrium real funds rate. So, I do not feel that our policy stance is way off from where it should be, and I think we can wait and see how these things materialize. I don't think we need to jump the gun in order to establish our credibility to prove to markets that we are prepared to act. All we need to do is actually to act when we see that the circumstances justify it.

CHAIRMAN GREENSPAN. President Moskow.

MR. MOSKOW. Mr. Chairman, I think the risks are clearly on the up side, as we all have said. The issue is whether the rate of economic growth will slow in the second half of this year. I think that it will based on the evidence we have seen. The business people with whom I have been in contact also sense that the economy is slowing. The question is whether it is going to slow enough to have the effect that we will need. Obviously, the people with whom I come into contact are not a random sample. You mentioned the issue of inventory accumulation, which I think is very important as we look through the rest of the year. The Greenbook assumes that appreciable inventory rebuilding will occur over the second and third quarters and that subsequent inventory accumulation will be relatively modest. Of course, that was not the pattern that we saw last year when sizable accumulation continued for a number of quarters. If such accumulation does spill over into the fourth quarter, we will not see the second-half deceleration in economic growth that will be necessary. So, I support the asymmetrical directive. I think it is crucial that we watch carefully. I also support having a phone call before making any decision between meetings. I think the Humphrey-Hawkins testimony that you are going to be giving is very important at this particular stage of the expansion and policy formulation. It would be an excellent opportunity to alert the Congress and the American people to our concerns regarding the risks in the economy at this time.

CHAIRMAN GREENSPAN. President Jordan.

MR. JORDAN. I think the reasons for a change in the direction of policy have to be even more convincing than for a change in the same direction as prior moves. Our action in early 1994, which subsequently was viewed as having been correct by people on the outside, was very important in that regard. If I were as convinced as some of the people around the table that the current stance of policy is too expansionary, I would not only support a 1/4 point change, I would say, let's move at least 1/2 point to get to where we need to be. If I were as convinced as my own staff that the reduction in January of this year was wrong, I would want to reverse it. I am not convinced of either of those things, and I am not at all convinced that an action in August will be warranted. If the staff forecast is anywhere in the right ballpark, we will see in the second half of this year a lower rate of change in most of the price measures and a lower rate of growth in most measures of real economic activity: housing, autos, real GDP, and job growth. An action now at the beginning of a period when everything will start to show a significantly decelerating expansion would subsequently look like we came from a different planet.

The asymmetry issue is troubling to me because, as some others have mentioned, I have a problem in principle as to what it means and the message it sends. I would not want support of asymmetry to mean a predisposition to tighten policy in August. But I am concerned about how going asymmetric now and going back to symmetric in August would be interpreted. It is almost as if, once we adopt an asymmetric directive, we are forced to go ahead and take the action so that we can go back to symmetric again. That is troubling. But I would not dissent if you want to go asymmetric.

CHAIRMAN GREENSPAN. I should say that there have been occasions in the past when we have gone asymmetric and withdrawn it. But the point you make is well taken. I think the broad mode of the Committee is Alternative B, asymmetric. I will ask the Secretary to read the appropriate language for that motion.

MR. BERNARD. This is on page 21 of the Bluebook: "In the implementation of policy for the immediate future, the Committee seeks to maintain the existing degree of pressure on reserve positions. In the context of the Committee's long-run objectives for price stability and sustainable economic growth, and giving careful consideration to economic, financial, and monetary developments, somewhat greater reserve restraint would or slightly lesser reserve restraint might be acceptable in the intermeeting period. The contemplated reserve conditions are expected to be consistent with moderate growth in M2 and M3 over coming months."

CHAIRMAN GREENSPAN. Would somebody like to move that?

VICE CHAIRMAN McDONOUGH. So move.

CHAIRMAN GREENSPAN. Is there a second?

MR. LINDSEY. Second.

CHAIRMAN GREENSPAN. Call the roll.

MR. BERNARD.

Chairman Greenspan	Yes
Vice Chairman McDonough	Yes
President Boehne	Yes
President Jordan	Yes
Governor Kelley	Yes
Governor Lindsey	Yes
President McTeer	Yes
Governor Meyer	Yes
Governor Phillips	Yes
Governor Rivlin	Yes
President Stern	No
Governor Yellen	Yes

CHAIRMAN GREENSPAN. I think we can break for coffee. Then we will come back to a discussion of swaps and intervention.

[Coffee break]

CHAIRMAN GREENSPAN. You will recall that we twice postponed this discussion until we could be joined by our two new colleagues.

That is one more reason I am delighted that they finally came on Board.

The staff paper prepared by Messrs. Fisher, Kohn, and Truman raises a number of interrelated issues. Our objective today should not be to try to reach firm conclusions on any of those issues, but rather to have an open, preliminary discussion with a view to having one or more subsequent discussions aimed at reaching a consensus on the wisdom of some of these matters. The excellent paper that has been presented to us focuses on a relatively narrow, nonetheless complex, set of issues associated with the future of the swap network and a possible alternative mechanism to deal with the short-term dollar liquidity needs of foreign central banks. However, in reading over the staff paper, I was struck by the fact that it does not address directly the deeper principles that should govern us in our dealings with other central banks. We have discussed our foreign exchange transactions at great length in recent years, and we have endeavored to define a set of operational principles to bridge our somewhat ambiguous relationship with Treasury as well as with institutions such as the G-7.

I am not suggesting we go back and review these particular issues at this point, but we have not recently reviewed our long-standing procedures on RPs and our reluctance to engage in reverse RPs with other central banks. I gather the latter results from the fact that when the Committee last focused on these issues, the nature of central bank bilateral relationships was far less complex, as indeed was the international financial marketplace.

Last year, we initiated an arrangement with the Bank of Japan to set up a procedure to liquefy Japanese holdings of U.S. Treasuries. We also have recently entered a broadened swap facility with Mexico and Canada. But what is our generic policy in such arrangements? We have chosen to accept foreign exchange risks with our larger-than-historic holdings of foreign currencies, yet we will not accept market risk on central bank credit transactions. Is this a general principle we wish to promulgate? Do we wish, however, to lend even without risk, for example, through reverse RPs, to any central bank that requests such an accommodation? Are there foreign policy concerns in this regard that should attract our interest? Does the RP pool of the Federal Reserve Bank of New York as currently operated reflect such principles?

Finally, does the broader set of issues surrounding our role in a changing international and political environment, in which new financial centers are emerging and cross-border financial linkages have intensified, require our focus before we decide on how best to deal with future requests to meet the liquidity needs of our sister central banks? These developments have the potential to change both the character and the origin of systemic risks compared with what we experienced in the past. They may have implications as well for the way we perform our responsibility as the central bank for the U.S. dollar.

In your comments on the issues raised in the staff paper, you might touch on these broader issues as well. My sense is that it would be useful to try to achieve a consensus on the conceptual framework for our international operations before we try to reach

final decisions on the specific issues raised in the staff paper. However, in an effort to limit the scope of our discussion somewhat, I would request that we remember that our purpose today is to have a free-ranging, but preliminary, discussion. What I hope the Committee will offer is some guidance about how we can move forward on some of these issues on the basis of an updated conceptual framework with which we all are reasonably comfortable. Vice Chairman.

VICE CHAIRMAN McDONOUGH. Mr. Chairman, I do not have any prepared remarks, but let me make just a few comments if I may. The approach that the Federal Reserve has to foreign central banks is very much a product of the rather unusual structure of the Federal Reserve, with the Board of Governors and the 12 Reserve Banks. The Federal Reserve Bank of New York historically has played a particularly important role because we are in the nation's financial center and because we do the intervening in both the domestic and the foreign exchange markets. The attitude that foreign central banks have toward the Federal Reserve is, thank heavens, one of great respect. They take us immensely seriously, including not only central bankers from small countries that you might think would take us seriously because of our being a superpower, but also those from the other G-10 central banks as well. I think one of our strengths is that we respond to people in a flexible and unbureaucratic way. For example, some of the G-10 central bank officials deal very actively with staff at the New York Bank and the Board and certainly with you personally, Mr. Chairman, and we never get into a mode of telling them that they really ought to be talking with Joe instead of me. This approach works very well because we are rather good at keeping everybody else informed. The other Reserve Banks, depending on the part of the world involved and to a degree the personality of the staff or the President at any given time, play very important roles as well. So, I think that this customer-oriented view of dealing with foreign central banks has great merit and should be continued. We should not try to force a method of dealing with the Federal Reserve System on people, but we should just let them deal with us as they have in the past in the context of continued very amicable relationships among the various parts of the Federal Reserve System and especially among the key staff members involved as well as the Board members and Bank presidents.

We also, I think, have to be very aware of how the world is changing. Historically, our very important relationships have been with the G-10 central banks, basically Europe, Canada, and Japan. In addition, we have developed very important relationships with the central banks of our hemisphere, an area in which I particularly get involved because of the historical accident of speaking Spanish very fluently. The new area where central bankers are very much interested in us is Asia. People from that part of the world have very active relationships with the San Francisco Reserve Bank, especially in the bank supervision area, very active relationships with Board staff, and very active relationships with us in New York.

One of the areas that I hope we will concentrate on and eventually resolve, but not today, relates to developments in the repo market. When the Committee set up the RP authorization to the Desk, and really the last time it was looked at in great depth was in the 1970s, the government securities market was very different. The Committee did not envision in the 1970s that we had to do anything for the central banks around the world in the way of providing liquidity

other than allowing them to take part in the repo pool at the New York Bank. For example, at the present time we are somewhat inconvenienced by having \$3 billion of while they hold \$3 billion of our collateral. The funds are sitting in New York as a pool in case wants to use them to meet the liquidity needs of in our time zone.

We cannot deal with them in reverse repos, which would allow us to take their holdings of U.S. government securities and give them money for a day or two, because nobody thought such a financing arrangement was necessary 20 years ago. So, the Desk does not have the authority to make reverse repos [with another central bank]. Leaving aside for the moment whether it is important in our dealings with foreign central banks to have that capability, I think it is very important from the standpoint of our management of bank reserves and to meet our responsibilities to the U.S. securities market. That's because we are in the awkward position that, if at a given point in time we wanted to provide liquidity--not to accommodate their interests but to serve our own--and we wanted to do so on a temporary basis instead of purchasing the securities outright to meet a liquidity need that might last for a couple of days, we would not have the authority to do that. I do not think that is in our interest in as complex a government securities market as exists now. It is essentially an anachronism.

When we look at the foreign central bank aspect to it, the debate on how many angels can fit on the head of a pin is kids' stuff compared with the debate among lawyers, accountants, and economists on whether a reverse repo is a securities transaction or an extension of credit. Since good and decent people can argue it is an extension of credit, I think we would have to be very careful in how we use that capability. My own view would be that at some point, when we actually make a recommendation, it should include the condition that it would be done only with the previous approval of the Chairman. If the Chairman were not available, then it would be done with the previous approval of the Vice Chairman, wearing my hat as Vice Chairman of this Committee but looking at the convenience that I happen to be in New York where the Desk is. That, I think, would give us adequate protection against the Desk ever thinking that this was a tool that they would use in the normal course of business. Having run the Desk myself, I know that a Manager takes very seriously ringing up the Chairman even via the ever loyal Don Kohn and saying, by the way, I would like to do something that I am supposed to do very infrequently, but now is the time. A Manager thinks that through a few times before making that phone call, and I believe that would be appropriate. Thank you, Mr. Chairman.

CHAIRMAN GREENSPAN. Just a couple of questions relevant to this issue: The real danger here, as you imply, is that there are numerous people who can envisage a reverse repo as an extension of credit. I can very readily see that there are certain countries with which the Federal Reserve Bank of New York might engage in a reverse repo and that transaction would not sit well with various Congressional committees or a variety of other groupings within this society. Do you think we should have at least some indication from the Committee as to the eligible list of countries or some mechanism for making that sort of judgment other than requiring it to be made by the Chairman or the Vice Chairman of this Committee?

VICE CHAIRMAN MCDONOUGH. Mr. Chairman, I think that has great merit. The question is the form. Would you want a list or would you want a sense of the Committee concerning what sorts of countries might be on the list?

CHAIRMAN GREENSPAN. We do not want a published list.

VICE CHAIRMAN MCDONOUGH. Yes, and we do not want a leaked list or somebody trying to obtain it through a FOIA request. A list cannot be leaked or released if it does not exist. My preference would be for us to have a discussion to arrive at a sense of the Committee concerning standards. The latter might include the requirements that a country should be highly creditworthy and not be in conflict with the United States of America in some manner. I think the Committee could give certain guidelines for the Desk and the Chairman to follow. This is not a firm opinion, but my own working hypothesis is that we would be better off to have guidelines rather than a list.

CHAIRMAN GREENSPAN. Perhaps they might include such a thing as the State Department's acquiescence in American citizens visiting such countries.

VICE CHAIRMAN MCDONOUGH. Yes, right.

CHAIRMAN GREENSPAN. President Minehan.

MS. MINEHAN. Mr. Chairman, I would like to take advantage of your offer to discuss the broader principles bearing on this issue and to leave some of the details for a subsequent discussion. I think the fundamental question that underlies the several discussions of swaps in which I have participated is whether we believe that central banks should have reserves in foreign currencies that they use either to support foreign exchange markets or to address payments system problems or both. My answer to that is that I am in favor of maintaining balances in foreign currencies. I say that despite the fact that foreign exchange intervention is tricky and more importantly it is not suited in some ways to what one might regard as a pure market philosophy. Foreign currency holdings have been useful in the past and not having them seems to me to be more risky than maintaining them despite all the questions that they raise about the size of holdings, earnings, and related matters.

We have accumulated a lot of foreign exchange holdings, though I gather mostly in two currencies, over the years. Swap lines, as I understand them, were put in place to provide currency balances where none existed. So, having foreign exchange balances and swap lines at the same time is a lot like having a belt and suspenders, too. Should we do away with swaps? Over the years, I have come to be a believer in the desirability of belts and suspenders at the same time. I think the combination is often a good thing, especially when the suspenders are quite cheap and are legal as in this case. I also believe that engaging in foreign exchange intervention and using swaps in conjunction with the Treasury, rather than compromising our independence, is highly useful in providing us with an opportunity to inform and moderate Treasury actions. Treasury practices in this area can, of course, bounce back and forth depending on the policies of the

Administration. It is possible that existing balances of foreign currencies may not be sufficient in some cases like the Mexican crisis. Swaps are the time-honored way of getting foreign currencies, and the fact that our swap lines have not been used in recent years except by Mexico seems fortuitous to me but not especially relevant to the issue of whether or not they should exist.

The use of repo facilities is, I think, a separable issue. Repo facilities inherently involve maintaining foreign exchange balances, as I understand them. At least based on the material presented in the staff memo, I find it difficult to come to a settled conclusion on the expansion of repo facilities because I think we need a fuller treatment and fuller discussion at some point as to exactly how they are used and in what situations they are used. But based on what I know about them, I find it hard to imagine that repo facilities could replace swaps. They do not seem to deal with the issue of a lack of balances in the affected currency. What happens, for example, when there is a sterling run on Citibank branches in London? We do not have a lot of sterling balances. If this repo process is used to replace swaps, which is the implication of the memo, how does that help us deal with that? Whether repo agreements are standard or customized, they could involve a major negotiation process with every country involved, and this undoubtedly would take a lot of time and effort.

In short, at least in my own mind--and I could be naive or wrong about this--it seems to be a little like mixing apples and oranges to imply that swaps could be replaced by repo arrangements. It may be that I do not understand this well, but there does seem to be a bit of a mix here.

CHAIRMAN GREENSPAN. It is a mix. It is not a replacement for the actual mechanism. It is a political replacement, if I may put it that way.

MS. MINEHAN. Yes, it certainly seems that way.

MR. PARRY. It is not belts and suspenders. One is a belt and the other is a raincoat. [Laughter]

MS. MINEHAN. I did not use "belt and suspenders" with regard to the repo facilities. It was with regard to swaps and the accumulation of foreign exchange balances.

CHAIRMAN GREENSPAN. Just remember a raincoat is anti-liquidity. [Laughter]

MS. MINEHAN. Because we have a December deadline on approving the swap network for yet another year, my preference at this point would be to approve the swap network. I think it would be very useful for us to engage in a more thorough review of alternatives. I certainly would like to see fewer questions and more strawmen put up as possible ways that we could deal with the issue. I would like to have some idea of how people see using a broader range of repo facilities. If we were to engage in negotiations with our counterparties, I think it would be rather arduous to get the change we want. If and when we want that to occur, the paper asks the question whether that should be linked in some way or another to the

European Monetary Union. I am agnostic enough about that and what it would mean over the near term that I think we should go ahead with this reevaluation. We should look at various scenarios, but we should do it on our own timetable and not the European timetable.

CHAIRMAN GREENSPAN. President Hoenig.

MR. HOENIG. Mr. Chairman, I appreciate the breadth of this discussion and for my purposes would like to put it in a different perspective. In my view, the first issue relating to our swap lines is our attitude toward intervention. That has been the reason for their existence, why they have been maintained and renewed. My own preference is for us to intervene on a very limited basis, and I think that also has been a very strong premise for some time for many on this Committee. I believe that should continue. We have foreign currency balances that provide us with a mechanism for intervention should we choose to use those balances in circumstances that we deem appropriate. As they have evolved over the years, our swap lines have been of very limited use, and I think they present a confusing picture about our role and intentions going forward. We should phase them out. As far as the timing is concerned, the European Monetary Union provides us with an opportunity. We may not be in a position to choose the exact timing, but it is an opportunity to phase out the swap network in a rational way without raising a lot of questions or uncertainties. I think we should take advantage of that opportunity.

That brings me to the issue of liquidity, whether we call it reverse repos or lending to others. I am very uncertain about that and would not want to indicate my leanings at this time because I think we need more information and a broader discussion. I know on the basis of some of the documents that I have seen in the past that there has been a very strong reluctance to get involved in the appearance or the reality of lending to another central bank or other international financial institution. So, I would like to know a little more about the potential liquidity needs, what countries would be involved, and how we would set general criteria for providing funds if we are going to move down that road. I certainly would hesitate to do it very quickly. Perhaps it is my own ignorance, but I believe we need more information on the table before we move to a decision. And I think that is a separate issue from swaps in principle.

CHAIRMAN GREENSPAN. It is. Let us emphasize that it is an issue that can be discussed on its own merits.

MR. HOENIG. I think we should do that over time in future meetings.

CHAIRMAN GREENSPAN. President Jordan.

MR. JORDAN. Thank you. I thought there was a general agreement in our earlier discussions that if we did not already have swap arrangements, we would not invent them, so the question looking forward was simply one of tactics for getting rid of them. Cathy in her remarks raised some question as to whether we should invent them if we did not already have them. Another issue is who is on the list. Should we have a swap agreement with Denmark, for example, and under what circumstances would we use it or allow them to use it?

In one of our discussions last year, Mr. Chairman, you made reference to the renewals of these swap lines as being like Christmas cards. I went home after that meeting and cut all foreign central bankers off my Christmas card list! [Laughter] A problem with a swap arrangement, either a current arrangement or any new one, is that it is expected to be used and the question is under what circumstances and with what unintended consequences.

I think none of us was happy with the further temporary increase in our swap line with Mexico and related decisions a year and a half ago. It was messy; it was uncomfortable with the U.S. Treasury; it was uncomfortable with the IMF. It was difficult and uncomfortable with the Mexicans. We would have been better off if we had not had the swap line. I would hope that by the time the Mexicans hold their next presidential election we will not have this reciprocal lending facility. That would be one criterion I would set up.

Another relates to the fact that there are only a very few currencies that serve as major standards of value in the world and every other currency is defined in terms of those currencies. One of those, the deutsche mark, is slated to go away in a couple of years. I think the kind of arrangement that we have with other major central banks whose currency competes with the dollar as an international standard of value is one thing, and the arrangements that we have with everybody else is something else again. Central banks are proliferating all over the world--in Tajikistan and places I can't even pronounce. I hope that my worst fears about the new European central bank and the new euro currency prove not to be warranted, but I believe we need to think very carefully, starting now, about what kind of arrangements we will want to have with that central bank and what kind of transactions we will be willing to engage in with it. There also are questions pertaining to those European countries that may be subjected to some severe dislocations by not being a part of the euro club and the European central bank. What kind of arrangements are they going to want to have with us, and are they arrangements that we are going to want to have with them? I think this is an extremely important issue. We do not have a lot of time, but we ought to put it in that context so that we finish this millennium with something quite different from what we have today.

CHAIRMAN GREENSPAN. Governor Rivlin.

MS. RIVLIN. On a very basic level, it seems to me that we ought to welcome the respect and the leadership role that the world, as Mr. McDonough pointed out, seems very willing to accord us and we ought to work as closely as possible with the other major central banks to keep things on an even keel and avoid financial crises. For that purpose, it seems to me that, as the world gets more complicated, we probably are going to need a quite flexible set of instruments and a quite flexible set of groupings of countries that we deal with in different ways. I am persuaded by the staff paper that the current swaps are probably an obsolete instrument, but I would be very worried

about eliminating them before we are much surer about the kind of structure we want going forward. I think we need to rethink that very carefully, and we need to do it in the light of a couple sets of political sensitivities.

One set is the concerns of our friends and allies around the world who are very worried, as I perceive it, that the United States may be withdrawing from the world. They believe that we have an inward-looking, to-hell-with-the-rest-of-the-world stance at the moment and that we are drawing back on foreign aid and not paying our bills that are due to international organizations. If we were to get rid of our swap lines, that might be seen as one more indication that we are withdrawing from the world. I do not think anybody around this table wants to do that. The other set of political sensitivities is exactly the one to which those people are responding--the Congressional set of fears that somehow we are going to become more entangled. So, as we structure a new set of relationships, I think we have to be very careful, first, that they are not seen as foreign aid but as mutual arrangements among central banks to avoid world crisis. They must not be viewed as give-aways because that would create some problem for anything that is an extension of credit. Second, these arrangements should not be seen as obscure, as the mysterious getting together of central bankers who might be thought to be up to no good. Politically, it seems to me that we have a very sensitive set of issues that we have to work our way through very carefully. I for one would think the first thing is to do no harm and not overturn the existing arrangements even though they may not be very modern ones.

CHAIRMAN GREENSPAN. President Parry.

MR. PARRY. I think the history of the swap arrangements since the early 1980s indicates that there is no need for them. Somewhat in answer to Governor Rivlin's concerns, it would seem to me that there may be political reasons for wanting to substitute something, but I think history has indicated that when it comes to the economic and financial considerations, a substitute mechanism really is not required. In addition, the more recent experience that we have had, I think, is another item on the side of the ledger in support of the view that we do not need this type of arrangement. So, without getting into what one perhaps should substitute or just add to it, I don't see where the case is at all strong that we need our swap lines.

CHAIRMAN GREENSPAN. President Broaddus.

MR. BROADDUS. Mr. Chairman, as you know, I have registered my discomfort with swap arrangements for some time, beginning with my votes against the renewal of a number of these arrangements in late 1994. Essentially, I think swap arrangements are undesirable because their primary purpose is to facilitate foreign exchange intervention, and I do not like foreign exchange intervention. I believe it compromises or threatens to compromise the conduct of monetary policy for reasons I have outlined here before. Just in two brief summary sentences: I think intervention undermines the credibility of monetary policy by introducing some confusion as to what our fundamental objectives are as between domestic price stability and exchange rate objectives at particular points in time. Secondly, I think some foreign exchange operations could over time undermine public support for the Fed's financial independence, which is the

ultimate foundation for our credibility. So, I would favor discontinuing the swap network. I was encouraged by the memorandum, which I also thought was very well done, because I sensed from it that a number of other central banks may also share these sentiments. Obviously, if we were to do this, there would be some transition problems and some technical difficulties and perhaps some perception difficulties in actually getting it done. I do not want to minimize those, but I think that if we confront them we can deal with them.

As far as the timing is concerned, I would agree that if we could in some way tie this in with the EMU, that would be great. However, Tom Hoenig said it well; we do not know what that timing is going to be and I would not want to wait for that.

With regard to the question that you raised and that the memo raises with respect to replacing the swap lines--if we do dismantle them--with some other kind of credit facility, I do not have answers, just questions. There are a lot of questions that we would need to ask and try to get answers to. Let me just highlight the ones that I believe would be most compelling. If we are going to do something like this, we need to be very clear as to the reason. There may be a valid reason, but we as a Committee would need to understand it as clearly as possible, and that would involve some discussion. Then there would be the mechanical issues having to do with whether to have limits on credit extensions either with respect to amount or to whom the loans might be made, how frequently they might be made, what the approval process would be, and so forth. I think we would have to establish those terms very carefully. There also would be questions about collateral. We would need to decide how what would be acceptable collateral and how it would be valued. Finally, and I guess most importantly, if we were to do something like this, we would need to try to design it in a way where we would not be seen as in any way misusing our off-budget status to make loans to foreign governments that could open us up to the kind of charges we got when we made the Mexican loan.

CHAIRMAN GREENSPAN. Governor Phillips.

MS. PHILLIPS. Thank you, Mr. Chairman. I have to admit my general skepticism regarding the effectiveness of intervention as a means of permanently affecting the value of the dollar. I do think that there are times when other smaller countries may be able to use intervention policies appropriately to affect their currencies. So, it seems to me that the usefulness of swap lines for the United States may be questionable. But I recognize that we live in a global environment, and we may need to be able to respond to the needs of other countries. We also are not the only government institution making this policy. To the extent that the Treasury, for example, decides that it is appropriate to intervene, we need to be there and we need to have the appropriate capabilities. I am not sure that swap lines are the most efficient means of effecting these kinds of transactions. I am not even sure that repos or reverse repos are the only other kinds of financial instruments that we could use. I suspect that in today's marketplace, there may be a wider range of instruments that could be used, and before we come to a final conclusion, we need to be thinking about where we want to go as opposed to eliminating one procedure and having nothing to replace it. Whatever adjustments are made, I hope that we would not be seen as

withdrawing from the international arena. I think the Fed should be an active participant in the formulation of U.S. policy. We should have a place at the table. I do think that the Fed provides continuity in the international financial arena on behalf of the United States.

CHAIRMAN GREENSPAN. Governor Kelley.

MR. KELLEY. Mr. Chairman, I have never been completely clear as to exactly what kind of an obligation these swap lines were. What are we obliged to do? It seems to me that whenever there is a likelihood that a central bank will want to draw on its swap line, that involves a full-blown discussion and negotiation anyway. A swap agreement is not a right to automatic credit as I understand it. As a consequence, it strikes me that its very existence may tend over time to be more awkward than helpful if other central banks presume that there is a right to credit which may turn out not to be desirable from our perspective at the time the drawing is requested. So, for that reason and others that have been mentioned here, it seems to me that it would be a good idea for us to start moving slowly away from our swap agreements.

An additional dimension that I don't think I heard mentioned here and that seems relevant to me would be the new level of participation and capability of the private sector to perform a lot of these functions. We recently went through an interesting pattern with the Brady negotiations and the structure that came out of that. Very recently, there have been interesting negotiations with Mexico that involved a third-party, private-sector group. I think that that is an appropriate consideration as well.

I would like to reiterate two things that Governor Rivlin and others have said. First, we probably should have some idea of where we want to go before we leave where we are. The second point is that I believe this is at least as much a political as it is a financial consideration. As a consequence, as soon as we have our thinking together, I think we should begin to move very slowly and carefully out of these arrangements and to do so in the context of a broad range of considerations and discussions.

CHAIRMAN GREENSPAN. One possibility is that we could move this forward if, for example, the Vice Chairman and I at meetings in Basle unofficially sounded out our counterparts concerning their views of these swaps agreements. It is very important for us to know if they think these are useless and obsolete appendages to the international financial system as distinct from a measure of embrace by the United States reflecting the United States' view of the moral superiority of our counterparties.

VICE CHAIRMAN McDONOUGH. If we were to assume a world in which the swap network no longer existed, would any formal mechanism have to be created to replace it? My own working hypothesis on that would be "no." In my view, what would replace it is what in a way already replaces it. A good many of us spend a fair amount of our time--I spend essentially 10 percent of my time--attending BIS meetings. I don't do that because I like the Basle Hilton, I can assure you, but rather because of the close personal relationships that come from that activity. What that means is that if we have a

problem with any of the people that the Chairman sees, say, at four meetings a year and I see at ten meetings a year, we are talking with someone we know very well. So what replaces the swap network is that personal relationship. It does not mean that we do them a favor or they do us a favor. What it does is to make it possible for two individuals representing their central banks to agree on what is in the mutual interest of their central banks and more importantly their countries.

If we ever got into a situation in which it was necessary to do something, including a reverse repo with, say, Germany, I think none of us would worry about whether there was a political consideration or a creditworthiness consideration. Germany is, of course, a very easy example. We would do the financial transaction only if it were very clear that it was in the interest of Germany and in the interest of the United States. As long as we keep a very close control on it, as has been suggested, then the risk factor is very, very low. Now, what that kind of approach to the world requires is a great deal of effort in figuring out which of the central banks of the world are important enough for us to spend the amount of time needed to get to know the people who run them as well as we know some of our best friends in Europe. That is a lot of work. I think one of the reasons that you, Mr. Chairman, wanted to concentrate on the overall aspects of this issue is that the people who work on this a lot like Ted, Peter, and Terry Checki from the New York Bank could perhaps be thinking of taking a look at whether, because of our rather disparate organization, we have missed some obvious candidates. I think we were a bit slow in taking the Southeast Asia central banks seriously. San Francisco was doing a good job on it; we were a little slow in New York, no question. I think Board staff was taking an interest in them. But we certainly have stepped up the degree of time and attention that we are spending on those people, I think very appropriately.

CHAIRMAN GREENSPAN. President Boehne.

MR. BOEHNE. I start out with some fairly basic views. I think that we have to be involved in the world and that we have to provide leadership at times. That means doing all the things necessary to build personal and institutional relationships to support our involvement. Whether one views intervention in the foreign exchange markets as desirable or not, I will guarantee, absolutely guarantee, that there will come a time when intervention is going to be something that we need to do. There may be very transitory reasons for the intervention and its effects may fade away over time, but there will be circumstances at some point where we will simply have to engage in intervention operations. As a practical matter, we will then need to have the ammunition to participate. While we may have foreign currency reserves now that permit us to do that, we will also need ways to back up those reserves to get the necessary liquidity. Whether it is swaps or something else, we will have to be in a position to do those things that are necessary for us to sit at the table and be effective players. The view that we can somehow pull ourselves out of the foreign exchange markets for all time, that we can somehow let the world go, is just completely at odds with the kind of financial structure that we have on a global basis and our role in it. If we are going to play, we need to have the tools.

MR. PARRY. Do we need the swaps to do that?

MR. BOEHNE. I am not arguing about whether we need the swaps per se. I am just saying that we need the means. If we can improve on the swaps mechanism or find other ways, that is fine with me. I do not think we ought to give them up until we are sure we have something else.

CHAIRMAN GREENSPAN. Governor Meyer.

MR. MEYER. Mr. Chairman, I found a lot on my plate as I prepared for this meeting, and you were the chef! [Laughter] Absorbing the memo on swaps got me very close to a form of intellectual indigestion. So I am not prepared to take a very firm position at this time, but I do want to share a few initial impressions. First, the current swap network certainly appears to be for the most part an historical relic. In her comments, Cathy said that this may be fortuitous, and that reminded me of a mutual fund prospectus stating that past performance is no guarantee of future returns. That may be the case here. However, the staff memo certainly left me with the impression that not only have these swaps, except in the case of Mexico, not been used since 1982, but in the staff's judgment there was no particular prospect that they would be used for the foreseeable future. So, eliminating the swaps would be like paperwork reduction, the 303 streamlining that we are engaged in. Why do we have to meet every year and renew these arrangements when we know they are not going to be used?

The main case for retaining them seems to be that it is not very costly, and there might be some political cost in dismantling them because we could be perceived as disengaging or not being a cooperative member of the team. Now, while the topic here is presumably swaps, that is not really what we are talking about for the most part. We really are talking about whether or not we believe in intervention in the exchange markets and how we feel about emergency actions when there are payments system crises as in the case of Mexico. That is the real issue despite the fact that the swap agreements have nothing to do with intervention in foreign exchange markets, except perhaps as a backup source of foreign currencies at some point down the road. Even that remains to be seen. I am not going to reach any judgment at this point about intervention in the foreign exchange markets. I will say that I start out with a degree of skepticism, but I am not so skeptical that I would remove this policy option from the table at this point.

With respect to the situation of Mexico, it is interesting that their drawing is the only example of the use of our swap line recently, and it is precisely that use that is the main reason why some people want to scrap the swap line network. This might have been an ugly way of dealing with the problem, but it may be that there were no less ugly options available. Again, I want to withhold judgment on that.

In terms of RPs and the merits of reverse RPs, I absolutely withhold any judgment on those issues until I have learned much more about those instruments.

CHAIRMAN GREENSPAN. Governor Yellen.

MS. YELLEN. Mr. Chairman, I agree that the swap arrangements are by and large a legacy of times past and may have become something of an anachronism. But even if these arrangements have become largely symbolic, they do seem to me to be an important symbol of our commitment to international cooperation. Here I agree particularly with Governor Rivlin and President Boehne. I think it would be dangerous simply to dismantle these arrangements in a way that creates international tension. I do not really see these arrangements as dangerous. I understand the principle that President Broaddus has enunciated as to why they could be dangerous to our ability to conduct an independent monetary policy, but I think that fear is overblown. I agree with President Boehne that they could even be helpful on occasion in the future.

I would support the suggestion that you made, Mr. Chairman, that it might be wise to look for an opportunity in Basle or elsewhere to discuss the future of these arrangements quietly with our central bank partners and to see what their reactions would be. I would not want to see needless tension created here. I also agree that before we have those conversations, it would be wise to figure out where we might want to go in the future to be able to react to suggestions that we replace these arrangements with something else. With respect to a system of repo and reverse repo-type arrangements, I think that is a possibility that is well worth exploring. But I would agree also with President Broaddus's list of the questions that would need to be addressed and answered. What do we see as the fundamental purpose? Is it to guard against systemic risk? Is it a service to our allies? Is it for our own reserve management needs? Will we do transactions on demand? Is this a privilege? Is this a right? Are there limits? With whom do we intend to deal? What criteria will we use to decide which countries? I think Governor Kelley's question about private markets and the impact that we might have on private institutions as we become increasingly large players in this area is a question that we should explore along with the broad issue of the governance structure if we proceed. We need to work out who will make the decisions and what authorization will be required. I think this is a good opportunity for the staff to go home and do some work.

CHAIRMAN GREENSPAN. President Moskow.

MR. MOSKOW. It seems obvious that the original purpose for establishing the swap arrangements is no longer as relevant as it once was. I do not think this necessarily means that we should unilaterally dismantle the swap lines. They are reciprocal arrangements. If our counterparts sense that we no longer have any need for the swap lines, then it might be appropriate to begin the discussions on how best to proceed with disassembling them without unnecessary adverse reactions. Mr. Chairman, I think your suggestion of the informal discussions that you and the Vice Chairman would have with other central bankers at Basle and elsewhere is a very good initial step. In the process as we are thinking this through, we certainly should explore alternative arrangements to see if they are needed to better reflect the current state of the international exchange markets, the role we should play, and whether the swaps are needed at all. There are many issues involved, and I agree with Governor Yellen that we should send the staff back to do some more work on this, including the private market aspect that Governor Kelley mentioned. I think this should be included in the broader study of

intervention and the types of tools that we would use if intervention is called for in the future. I agree with President Boehne that the odds are pretty high that we will be called on to do something sometime in the coming years.

On the EMU point, I do not think we should wait to see if EMU becomes a reality before we begin this effort, although we clearly would have an opportunity at that time for implementing any change and adjustments that we need. I also think this is an area where close cooperation is going to be needed between the Federal Reserve, the Treasury, and other affected central banks and governments. It may be, as someone said, that this is more of a political decision than an economic decision in some respects. Our independence may be better enhanced if we take a leadership role on this issue rather than just unilaterally terminating these swap arrangements. We certainly do not want to add to the concern that the United States is no longer exercising leadership in the international community.

CHAIRMAN GREENSPAN. Governor Lindsey.

MR. LINDSEY. I am certainly no advocate of withdrawing from the world,

Two issues have been raised. The first has to do with what I would call the dual purposes here, which is concern about withdrawal from the world versus a domestic political consideration. As some members have emphasized in this discussion, there certainly will come a time in the future when we will wish to be in a position to intervene in foreign exchange markets. I am sure that will happen. We have managed to intervene in foreign exchange markets quite a bit. I can't think of any instance since I have been here when we really had to intervene. It certainly was not because of an emergency or a financial crisis. As I recall, every time we intervened the reason really came down to what was in effect a domestic political consideration. Some major trading partner had too high a currency or too low a currency or something of that nature and that was the real motivation. It was not a systemic risk situation. There was no question about systemic risk. In every instance that we can think of, except perhaps for some hypothetical developments in the future, we know why intervention is being used. It has nothing to do with systemic risk; it is an arm of the domestic political apparatus, and I do not like that. I do not think that is what we are here for, and I think there are risks to this institution if we play that game.

We really have to think about two issues. The first, as has been mentioned, is the list of countries with which we want to conduct these transactions, and related to that is the question of whether or not the other currency is a major store of value. Mr. Chairman, you indicated that we should exclude countries where the State Department does not want U.S. citizens to travel. I do not think we need a repurchase agreement with North Korea or Cuba, and I do not know where else we cannot travel, so I think that is too small a list of excluded countries.

MS. MINEHAN. Iran.

MR. LINDSEY. Iran, okay. We do not need a repurchase agreement with Iran right now.

SPEAKER(?). They have their own printing press! [Laughter]

MR. LINDSEY. Let us think about the Indian rupee or the Chinese renminbi.

CHAIRMAN GREENSPAN. These are repurchases involving U.S. Treasury securities.

MR. LINDSEY. All right, let us pick the case of a repurchase agreement with China.

CHAIRMAN GREENSPAN. In dollars.

MR. LINDSEY. In dollars. Let us think about the odds that the transaction would be used to prevent systemic contagion to the U.S. banking system versus the odds that it would be used for domestic political considerations because the Chinese are selling us too many shirts or whatever it is. Do you want to give me the odds on that? I know which way it is going to come out. The only place where I think the issue gets really difficult is with the yen, which does serve as a true world store of value currency. Even in that case, it can still be used for domestic political considerations. So, I think we have to draw the net very tightly on countries with which we will undertake to do these transactions. I believe the way to think of this is in terms of the probability that we may need to intervene for good reasons versus purely domestic political considerations.

The second issue is one of duration. I do not remember any discussion of this although, Bill, you did allude to it. We could have a two-day reverse repo or a three-day reverse repo, but if we renew it 100 times, it suddenly becomes what I would call a real extension of credit. I would suggest that we think hard about that issue; that would be one of the clearer lines in the sand that we would have to draw. I remember in our discussion of the Mexican bailout that we all knew we were going a bit out on a limb for a year. We viewed that as a long time, and we certainly did not want to go beyond a year. If we are going to focus on this and we want to avoid the appearance of an extension of credit, I would think that the duration has to be a lot less than a year. Maybe it should be a matter of weeks.

VICE CHAIRMAN McDONOUGH. I would be astounded, since you addressed the question to me, if the duration were more than a few days. My main motivation for getting the reverse repo capability for the Desk is that I do not want to deprive us, the FOMC, of a useful tool for our own purposes. I am not really motivated by the objective of helping other central banks around the world. A problem that sometime arises in our dealings with some of the Southeast Asian banks when they ask if we can do a reverse repo. They understand fully the nature of that financial instrument. When we say, "No, we can't do those," they think it implies, because a country competitive with us is encouraging them to have that view, that we are not a cooperative central bank. It is not that they are saying they want us to do it. They are not asking for any kind of an arrangement. It is that they are thinking: Why in the world would a central bank not be able to do

what would appear to be a completely normal transaction in its own Treasury securities in its own currency when it can do those any day of the week with Salomon Brothers? I have constructed answers to such questions, but in fact it is not very comfortable to have to answer them. So, I would like to be able to say that we have that technical capability, but they should not in any way have the view that we intend to use it. They have access to all those Street firms that Mike Kelley referred to and they should go and do their business with them. All kinds of people are eager to do business with those central banks, and that is where it ought to be done. On the other hand, our not having that tool available to us is a product of the fact that in the 1970s, whenever it was, nobody thought we would need it, so we did not get it. No one can recall a policy decision on this matter, but rather it appears to have been a case where nobody thought of it as something that might be needed.

MR. LINDSEY. I agree.

CHAIRMAN GREENSPAN. President Stern.

MR. STERN. I have just a couple of comments. I think swaps have outlived their usefulness. My recollection is that one of the problems we have encountered with them is that foreign central banks have wanted to draw on their swap lines at times we did not think it was such a good idea. I remember some balance sheet window-dressing on the part of a country whose name has already been mentioned a couple of times here. That places us in a dilemma. They come to us with the expectation that they are going to be able to make the drawing. Do we want to say no, given that the facility is in place? It gets to be very difficult. So, I would think that we ought to try to extricate ourselves, as gracefully as possible, over time from these arrangements.

In terms of where we might go, I have some sympathy in the abstract for the flexible approach based on personal relations that Bill McDonough was talking about. But this is politically sensitive stuff. There is no escaping, it seems to me, that these arrangements and transactions are politically sensitive. Where that leads me is to the view that we need some principles with regard to what we are prepared to do, under what circumstances, with whom, when, and so on. It may be that, in extremis, we will need to interpret those principles flexibly, but I assume those situations would be rare.

CHAIRMAN GREENSPAN. President McTeer.

MR. MCTEER. I am not a fan of intervention by the United States in foreign exchange markets, and in any event we probably do not need swap arrangements for that purpose. However, our swap partners might have such a need, so I am not sure what we would gain by giving up the flexibility to accommodate that need before we have an alternative in mind. I would look for alternatives and keep the swaps around until we have one.

Just a word on Mexico: Nobody liked the way the Mexican support package was put together and it was certainly ugly. But I still believe that we did the right thing, and it appears that it has worked and is working and will be successful. I would keep the swap arrangement around so that it will be available in the next crisis.

The idea of hurrying to dismantle it before another crisis occurs where we might use it does not appeal to me.

CHAIRMAN GREENSPAN. President Melzer.

MR. MELZER. Alan, I cannot add anything that has not already been said on the swaps issue. I do want to say that I have a lot of sympathy for what Bill McDonough said in terms of how we ought to be thinking about this issue looking forward. We ought to focus on making sure that we maintain the U.S. dollar as the principal reserve currency, and we ought to be thinking of vehicles that support that objective. That is really how I view what Bill is saying in an environment where we are apt to have larger and larger cross-border settlements and the need for liquidity on relatively short notice. The ability to provide the latter would certainly be in our interest. People are going to look to us to make sure that dollar settlements throughout the world are in fact made. We ought to be thinking in terms of a vehicle that helps facilitate that. So, I think our focus ought to be shifted away from supporting foreign exchange intervention, and I think swaps are an anachronism in that context in any event. We should be moving more toward payments system risk aspects and really supporting the U.S. dollar. That is what this ought to be about as we think about the future.

CHAIRMAN GREENSPAN. Any further comments?

MS. MINEHAN. I just want to reiterate what Gary Stern said before. For better or for worse, my understanding of the way swaps work is that there is an activation process of some sort and then an actual use. There are principles and rules that apply and so on. I think we need to be very flexible as we move forward, and I think we ought to be responsive as a central bank. We need to be aware of the political nature of these transactions, particularly in the reverse repo situation where there is at least a debate about whether it is the same kind of extension of credit that ended up being debated. Accordingly, I think we need to have a fairly firm set of principles under which we would operate and that would not vary a great deal, except in extremis, from country to country. Those principles would be something that we would talk about in advance of actually providing dollars. I am a little nervous about extreme flexibility because I think it could lead into difficulty for us.

CHAIRMAN GREENSPAN. Further remarks or questions? If not unless I hear an objection, I think we probably ought to move forward and see whether we can get some responses on this general issue from our counterparties and bring those observations back to the Committee the next time we discuss this operation. Is that okay with everybody?

MR. PRELL. Mr. Chairman?

CHAIRMAN GREENSPAN. Yes.

MR. PRELL. Could I remind Committee members that there is an opportunity to submit revisions of their forecasts? It would be very helpful to us if those could be sent to me by close of business on Monday to give us time to incorporate them in our draft of the Humphrey-Hawkins report.

VICE CHAIRMAN MCDONOUGH. If I could just add a remark that is probably gratuitous and unnecessary, but I will make it anyway. There were many references to the tremendous importance of the upcoming Humphrey-Hawkins testimony, and that testimony is going to be infinitely more meaningful if all of us maintain a very studied silence in the meantime.

MR. STERN. Do you have a date for that testimony?

Mr. COYNE. It's scheduled for Thursday, July 18.

CHAIRMAN GREENSPAN. The next meeting is August 20th. We will adjourn for lunch.

END OF MEETING