

## Meeting of the Federal Open Market Committee

October 3, 2000

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, October 3, 2000, at 9:00 a.m.

PRESENT: Mr. Greenspan, Chairman  
Mr. McDonough, Vice Chairman  
Mr. Broaddus  
Mr. Ferguson  
Mr. Gramlich  
Mr. Guynn  
Mr. Jordan  
Mr. Kelley  
Mr. Meyer  
Mr. Parry

Mr. Hoenig, Ms. Minehan, Messrs. Moskow and Poole, Alternate  
Members of the Federal Open Market Committee

Messrs. McTeer, Stern, and Santomero, Presidents of the Federal Reserve Banks  
of Dallas, Minneapolis, and Philadelphia respectively

Mr. Kohn, Secretary and Economist  
Mr. Gillum, Assistant Secretary  
Ms. Fox, Assistant Secretary  
Mr. Mattingly, General Counsel  
Mr. Baxter, Deputy General Counsel  
Ms. Johnson, Economist  
Mr. Stockton, Economist

Mr. Beebe, Ms. Cumming, Messrs. Eisenbeis, Howard, Lindsey,  
Reinhart, Simpson, and Sniderman, Associate Economists

Mr. Fisher, Manager, System Open Market Account

Messrs. Madigan and Slifman, Associate Directors, Divisions of  
Monetary Affairs and Research and Statistics respectively,  
Board of Governors

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

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

Messrs. Oliner and Struckmeyer, Associate Directors, Division of Research  
And Statistics, Board of Governors

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

Mr. Whitesell, Assistant Director, Division Monetary Affairs,  
Board of Governors

Mr. Ramm, Section Chief, Division of Research and Statistics,  
Board of Governors

Messrs. Reeve and Sack, Economists, Divisions of International Finance  
and Monetary Affairs respectively, Board of Governors

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

Mr. Kumasaka, Assistant Economist, Division of Monetary Affairs,  
Board of Governors

Messrs. Hakkio, Kos, Lacker, Ms. Mester, Messrs. Rasche, Rolnick, and  
Rosenblum, Senior Vice Presidents, Federal Reserve Banks of  
Kansas City, New York, Richmond, Philadelphia, St. Louis,  
Minneapolis, and Dallas respectively

Messrs. Evans and Rosengren, Vice Presidents, Federal Reserve  
Banks of Chicago and Boston respectively

Mr. Tallman, Senior Economist, Federal Reserve Bank of Atlanta

Transcript of Federal Open Market Committee Meeting of  
October 3, 2000

CHAIRMAN GREENSPAN. Good morning, everyone. We begin with Peter Fisher.

MR. FISHER. Thank you Mr. Chairman. I will be referring to the package of charts with a peach cover.<sup>1</sup> On the first page, as usual, is a chart depicting the forward rates. You will note on the far right of each of the three panels that the recent spike in the current 3-month LIBOR rates, the black line, occurred as their maturities moved into the period that covers the calendar year-end. I don't draw any other significance to that spike.

The red lines on the top panels depict U.S. forward rates. As you can see there, since the September 1st release of the August employment report, both the 6-month and 9-month forward 3-month rates have been driven below the current 3-month LIBOR rate and the 3-month forward 3-month rate. More recently, the 6- and 9-month forward rates have traded down to within less than 10 basis points of the Committee's current fed funds target rate.

Summarized differently, 3-month rates in the second and third quarters of next year are now expected to be below current rates and below those in next year's first quarter as well. It's hard to resist the conclusion that markets are pricing in expectations that the Committee's next move will be an easing. But there are very few market participants who will say so in words, let alone date it, though they are actually predicting it in their pricing behavior. So, while we see it in the prices, it's a funny kind of reflection of group behavior to which few are willing to confess.

CHAIRMAN GREENSPAN. Someone will think of a phrase to describe it, like "money speaks louder than words."

MR. FISHER. Yes, that comes to mind. I think your former colleague, Wayne Angell, well summarized this curious state of affairs, at least to my way of thinking. When recently asked what the Committee's next move would be, he responded that it would occur in the year 2003. [Laughter]

Turning to the middle panel, as you can see, the euro forward rates declined a bit after the ECB raised rates on August 31<sup>st</sup> but moved down principally on September 1<sup>st</sup>, as U.S. rates fell after the release of our employment report. They rose again a little but then declined throughout September as evidence seemed to accumulate that euro area growth was slowing and may have hit a near-term peak earlier in the summer. Japanese forward rates, as the green lines in the bottom panel indicate, have become a little noisier as calendar and fiscal year-end dates

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<sup>1</sup> A copy of the charts used by Mr. Fisher is appended to this transcript. (Appendix 1)

have traded into the forward rate maturities, but the overall levels are little changed.

On the next page I have shown some long-term rates. The top panel shows U.S. Treasury yields on 2-year, 10-year, and 30-year securities and the bottom panel has the U.S. and euro swap rates for those same maturities. In the top panel you can see that from August 31<sup>st</sup> through last Friday, the latest date depicted there, 2-year Treasury yields declined by about 18 basis points. Those expecting a slowdown in economic activity have eagerly cited this as evidence supporting that outlook. Both 10- and 30-year Treasury yields backed up, with 30-year yields trading above 10-year yields for the first time since January, and this has been eagerly cited by those who have been concerned about inflation risks. Now, I don't want to downplay concerns about inflation, which are widely being discussed in the market, particularly with reference to the volatility in oil prices. But the modest backup in yields on 10- and 30-year Treasuries did appear to coincide with a heavy pace of new corporate issuance and with indications from the campaign trail and the Congress that both major political parties might yet find a way to spend some of the surplus.

Moreover, in the top part of the bottom panel, you can see that swap rates show a slightly different and less pronounced trajectory. The 2-year swap rate, like the 2-year Treasury yield, fell by 18 basis points from August 31<sup>st</sup> through last Friday. But the 10-year swap rate fell 8 basis points while the 30-year swap rate was unchanged.

At the bottom of the page you can see that euro swap rates, at lower levels, roughly tracked the movements in U.S. 10- and 30-year swaps, with the 2-year euro declining 17 basis points and the 10-year declining 5 basis points. But the 30-year euro swap backed up by 11 basis points. Thus, both the dollar and the euro 2- to 30-year swap curves steepened by 19 basis points from August 31<sup>st</sup> through last Friday. But on the dollar side, all of the widening occurred by falling 2-year rates, while on the euro side it was divided between a fall in the 2-year rate and a rise in the 30-year rate.

These relative movements in U.S. and euro area swap curves not only reflect but reinforce the perception that while growth in the United States may be slowing--with the risk of an uptick of inflation, perhaps from oil prices among other things--that in Europe is slowing also. And the slowdown in Europe is from lower levels of growth, while the uptick in inflation could perhaps be of a greater magnitude from the combination of rising oil prices and the falling euro.

Turning to the next page and directly to exchange rates, you can see in the top panel the percent change since May 1<sup>st</sup> in the three major currency pairs. The bottom panel depicts implied volatilities of one-month options

for those same pairs. We should recognize, of course, that the dollar has been strong against a number of currencies for some time. But over the course of the summer and into September, among the three major currencies I think we clearly have a problem of a weak and volatile euro, particularly against the yen. The red line showing the euro/yen rate leads the way lower in the top panel, as the spot rate has traded down, and the way higher in implied volatility in the bottom panel. The dollar/yen line, in blue, is remarkably stable across the top panel, with declining implied volatility in September.

Why did the euro come under such pressure in September? I see three reasons that work together. First, in anticipation of the Japanese fiscal half-year-end statement date on September 30<sup>th</sup>, Japanese investors were seeking to reduce or hedge their euro exposures. Second, in a market with this ready class of euro sellers, there were some very confused policy signals sent by the Europeans. On September 5<sup>th</sup> Chancellor Schroeder in a prepared speech said that the current euro/dollar exchange rate is more of a reason to be happy than concerned. The ensuing cacophony of official utterances drew attention to the lack of a clear voice on euro exchange rate policy and made the euro's exchange rate an increasingly political issue. The third factor was the ECB's mistake, in my view, of announcing on September 14<sup>th</sup> that it would sell accumulated interest on its foreign exchange reserves, amounting to 2.5 billion euros, and that in the future it would consistently sell interest income. I want to be clear that I don't think that's a mistake in principle; in principle that's a fine thing for a central bank to do. But timing is everything. I'm confident that the ECB thought that with this device they could intervene a little without exposing themselves to the credibility loss of an actual intervention. From my way of thinking, by taking an insufficient amount of funds to make a difference in the market, they sent a muted and garbled signal of a "nonintervention" intervention. And they created the risk of inducing more euro sellers to come into the market by announcing their intention to buy.

Why did we join the intervention on Friday the 22<sup>nd</sup>? The short answer is virtually every important condition that we spelled out. At the start of that week,

was informed Thursday evening, while the details of the agreement were being worked out, that Secretary Summers would state on Friday after the operation that U.S. foreign exchange policy remained unchanged and that a strong dollar is in our national interest.

Turning to the operation itself, you can see in the bottom portion of this last page various rates at certain selected times from Wednesday September 20<sup>th</sup> through last Friday. I'd like to make three points about the joint intervention operation. Sadly, the operation appears, at least to my cynical eyes, to have been anticipated by some in the market. From Wednesday's close to Thursday's close, the euro rose more than a cent, and it rose another cent from Thursday's close to 7

a.m. Friday, just before we entered the market. While it is often said that intervention works best when it's pushing the market in the direction it already wants to go, this isn't quite what we mean by that.

Second, even so, I think the operation should be recognized as having been fairly successful in a narrow technical sense. The rate closed on Friday the 22<sup>nd</sup> at .8784, higher than the prior day's close and higher than the rates when we entered the market. At the close of the following week, Friday the 29<sup>th</sup>, rates were higher than when we entered the market on the preceding Friday. We can have bigger movements than these, but I don't think it's reasonable to expect much more of intervention than a one-day or one-week impact, particularly in the absence of a subsequent concrete policy action to which the intervention can be thought of as a bridge.

Third, I think the impact on expectations about the Committee's future actions and U.S. exchange rate policy was quite limited. During the operation the dollar rose against the yen, as you can see in the exchange rate data on the bottom line of the page. While the December fed funds futures contract came off about 1-1/2 basis points on Friday the 22<sup>nd</sup>, most people in the market attributed this tiny bit of noise to the weakness in U.S. equities that day and the previous day rather than to the intervention.

Mr. Chairman, for the first time since 1998 I will need a vote of the Committee to ratify the System's foreign exchange operations. In those operations we sold 669,723,900 U.S. dollars and purchased 750 million euros as the System's share of the U.S. portion of the September 22<sup>nd</sup> intervention.

In domestic operations, the fed funds rate has been quite well behaved since your last meeting. We have redeemed \$4.8 billion in Treasuries at auctions under our internal limits and have purchased \$6.1 billion in Treasuries in outright operations since your last meeting. I should note that the currency component of M1 has been weaker than we had expected. This reflects both weaker domestic demand and continued net inflows of foreign currency from abroad. Our detailed extended forecast of reserves is available on our Market Source web site. I will need a separate vote of the Committee to ratify our domestic operations.

I'd be happy to answer any questions.

CHAIRMAN GREENSPAN. How much money did the American taxpayer lose by our buying 750 million euros at a higher price than we would have had there not been front-running?

MR. FISHER. I haven't made that calculation, but I'm sure we could do it in just a few minutes; it could be done off of the rates I have provided here.

CHAIRMAN GREENSPAN. It's at least a couple of percent.

MR. FISHER. Yes, it's a couple of percent.

MR. KOS. It's about 15 to 30 million dollars.

MR. FISHER. Dino gave you the answer: It's about 15 to 30 million dollars.

CHAIRMAN GREENSPAN. We should complain and ask for restitution! My second question relates to the exhibit on swap rates and other yields. You indicated with regard to the rather significant closing of the spreads in 30-year swaps versus Treasuries that the calendar was a factor. But if the private calendar were an element in that, we would have seen more than a modest rise in the swap rates. The presumption that there is no credit improvement involved almost leads one to conclude that what we're looking at is the potential demise of the 30-year Treasury issue. The probability of that demise has gone down quite significantly for the reasons you suggested--about everyone in the political arena wants to spend part of the surplus. I agree to half that phrase. The political campaign has weeks to go and the presumption that there will be any surplus left is questionable! Why can't we say that virtually all of that closing in the spreads is attributable to the expectation of running out of U.S. Treasury securities? It's a supply problem, but the problem obviously is the issue of a greater potential supply of U.S. Treasuries rather than the private calendar. Would that be an accurate way of looking at it?

MR. FISHER. I don't disagree with the way you've described it, Mr. Chairman. But it's a very small data sample of only a few weeks. And I think in the microcosm of a couple of weeks, the heavy pace of private corporate offerings helped to move those rates up to their peak. A number of investors looked at the pickup in yield from a move out of a 30-year Treasury into a 5-year private debt issue, and that opportunity cost looked very attractive to them. I'm not disagreeing with you that when we look back, whatever the trend line is here, probably the supply consideration will be



more significant, but in this microcosm I offered both developments as factors in the bit of noise we were seeing here.

CHAIRMAN GREENSPAN. I'm just raising the point that one certainly can explain the firming of a 30-year swap rate in those terms. But the presumption that the fairly significant decline in the spreads is attributable to anything other than the potential long-term supply of 30-year Treasuries I find somewhat less convincing. Am I wrong in that?

MR. FISHER. I would agree with you on where to put the most weight. But I would want you not to put zero weight on this different issue--and maybe I should have been more explicit about it--that there will be a process of investors coming out of the long end of the Treasury market at lower and lower yields. Even if the supply of Treasuries comes back from the dire forecast people have made of no 30-year issues outstanding, these yield levels relative to what is available elsewhere suggest that investors will be drawn to the higher-yielding instruments. I just urge you not to put a zero weight on that.

CHAIRMAN GREENSPAN. No, I had no intention of doing that. I never put zero weight on anything! [Laughter]

VICE CHAIRMAN MCDONOUGH. Or 100 percent!

CHAIRMAN GREENSPAN. Or 100. Further questions for Peter? President Parry.

MR. PARRY. Peter, my recollection of previous interventions--let's say going back 10 or 12 years--is that we would be approached by the Treasury which, of course, was receiving a lot of pressure from another country, and we would act at the request of the Treasury. It sounds as if the dynamics were a little different this time because you emphasized your discussion with the ECB and discussion with the Chairman. Did you just leave out a part or was it different?

MR. FISHER. I don't think it was qualitatively different from operations of the early 1990s in the sense that there usually have been two channels of communication with the United States. In those days, it was between the Bundesbank and both the Federal Reserve and the Treasury. Those two channels operate concurrently. The Treasury was and remains in the driver's seat, as we say.

MR. PARRY. And that was the case this time?

MR. FISHER. That was the case this time.

MR. PARRY. That wasn't clear to me. Thank you.

MR. FISHER. I'm sorry, I meant that to be explicit. There is a novel awkwardness with the ECB in that, as Secretary Summers has said, there is no one to answer his phone call--there is no one place where he can call his counterpart--whereas there is someone to answer our phone call. So there was some awkwardness. And there's still an intramural dispute on the Continent as to who's on first in that regard. This made the process considerably more awkward and cumbersome for both the United States Treasury and for us.

CHAIRMAN GREENSPAN. You know the Treasury, to its credit, feels uncomfortable dealing directly with another central bank except through us. And I think in that regard--

MR. PARRY. So there's an institutional change that has really produced the different approach.

CHAIRMAN GREENSPAN. It's largely that.

VICE CHAIRMAN MCDONOUGH. It's an institutional difference.

MR. PARRY. Right.

VICE CHAIRMAN MCDONOUGH. The Federal Reserve represents both itself and the Treasury of the United States whereas the ECB does not represent the treasuries of its member countries but is just the central bank.

MR. PARRY. Good. I think that explains it.

MR. FISHER. I'm sorry I wasn't clear about that.

MR. POOLE. Mr. Chairman, I'd like to take a couple of minutes to talk about the intervention issue because I think it's a very important issue for us. If I were currently a voting member of the FOMC, I would offer an amendment to the motion to ratify the recent transaction in euros for System account. My purpose would not in any way be to express concern over the actions of the Account Manager, but to reduce the probability of future interventions for System account. The amendment, and I don't have exact wording, would require that any future intervention be made in the context of the Committee's discussion at its most recent meeting and that the Chairman should, if feasible, consult with the FOMC before authorizing additional transactions in foreign currencies. I take this position because I believe that the recent exchange market intervention is a very serious issue for the Federal Reserve. The intervention has not to date created problems, but it probably will in the future. Going down this road is likely to be costly to the United States.

The decision to participate in the European effort to support the euro was made by the U.S. Treasury and not by the Federal Reserve. However, we have lent our prestige and blessing to the intervention by participating, not just as an agent for the Treasury, but for our own account. Moreover, the intervention was widely reported as an intervention by the central banks involved. I believe that the intervention was unwise and did not serve the interests of the United States, nor of Europe for that matter. But our responsibility is to the United States and we ought to make the best judgments we can in that regard. If the U.S. Treasury has a different judgment, then it should

intervene for its account. We can act as agent for the Treasury, but I believe we have an obligation not to intervene for the Federal Reserve account if in our judgment the intervention is unwise.

The problem with intervention in the foreign exchange market is that a dynamic is created that almost invariably has caused difficulty in the past. I believe that we face a high probability of the same process occurring in this case. Economists are agreed that sterilized intervention is unlikely to have any long-term effect. If there is a problem with policy fundamentals, then those fundamentals must be changed to achieve any lasting change in the value of a currency in the foreign exchange market.

Based on extensive study and experience with exchange market intervention, economists have developed an overwhelming consensus that an exchange rate system should be either freely floating or thoroughly fixed through a currency union or a currency board. The halfway house of intervention is unstable and unsatisfactory. I know of no documented case in which an intervention episode from the beginning of a series of interventions to the end turned out well. I know of lots of cases that turned out badly. I've studied in considerable detail the intervention dynamic that began with the Plaza Agreement in September 1985 and lasted for several years. The conclusion from that analysis is that the Plaza intervention and its aftermath were costly for the United States and for Japan and the United Kingdom as well. Intervention during the 1980s and the early 1990s that attempted to maintain the European exchange rate mechanism did not work well. I could multiply these examples many times over.

Intervention creates a political and economic dynamic that with high probability creates further problems. The dynamic ahead of us is that further instability is likely, whether the euro sinks again or recovers. If the euro sinks, calls for additional intervention are inevitable. And the European central bank, having started down this road, will find it very difficult not to continue.

Should the euro rise significantly, there will be calls to intervene in the other direction before an excessively strong euro damages European exports and the European economic recovery. In either case, we'll be asked to participate in these interventions. Only if we are lucky and the euro settles in the neighborhood of its current level for many months do we have a chance that the dynamic of intervention will gradually fade, making further interventions unlikely.

Federal Reserve policy should not depend on our being lucky. If euro fluctuations lead to a European judgment for additional intervention, so be it. But the Federal Reserve should, in my view, make clear that this central bank does not believe that intervention for the Federal Reserve account is wise and that, therefore, we do not intend to join in any future intervention operations. We can make that point clear to our European friends and to the U.S. Treasury without advertising our position publicly.

I do not accept the argument that the United States, including the Federal Reserve, is simply passively supporting our friends in Europe. The United States and Europe are now in the intervention business together. I believe it imperative that the Federal Reserve lead in reestablishing a U.S. policy of nonintervention in the foreign exchange market.

The Federal Reserve is in a very difficult position on this matter. If the Federal Reserve rather than the Treasury had the legal responsibility to make these decisions for the United States, then I do not believe that the FOMC would have been out front urging intervention. This Committee might or might not have cooperated when the ECB asked us to intervene for the Federal Reserve account. I hope the Committee's response would have been a polite "no." But now we have lent our prestige and accepted a degree of the responsibility for the outcome of this process that has started, while deferring to the Treasury on the decision to support the ECB's intervention decision. If this Committee is opposed to the intervention on its merits, as I believe it should be, then we need to find

a way to extract ourselves from supporting intervention with our prestige and our resources. We should not permit ourselves to be in a position where we are accountable but have ceded authority over the intervention decision to the Treasury. That is why I believe that the Federal Reserve should make clear to the Treasury that the System will not share in any future interventions without the express authorization of this Committee.

CHAIRMAN GREENSPAN. Let me comment. First of all, you left out in your analysis of sterilized intervention the most extraordinary set of experiments proving it doesn't work, which is the Japanese experience employing \$20 billion against the dollar with zero effect. There is no evidence, nor does anybody here believe that there is any evidence, to confirm that sterilized intervention does anything. We don't believe it. The Treasury doesn't believe it. The Europeans do, but that's another question.

When is the last time we intervened?

MR. FISHER. June of 1998.

CHAIRMAN GREENSPAN. Between June of 1998 and today--or I should say last week--we probably had 20 or so different requests, at various levels, for intervention. We turned them all down. And indeed, in this latest case we were not happy with the notion of intervening. What occurred essentially was that the Treasury, feeling under very considerable pressure from the rest of the G-7, concluded that in the spirit of international comity we had very little choice but to accommodate the Europeans--

We, the Federal Reserve, did have the choice of saying we would not participate. The presumption that we could do that without it being known is not believable. We publish data on our intervention activity and if we don't participate with the Treasury, it becomes known. Now, that would create a schism within the United States government. And the question we have to evaluate is whether our concerns about the inefficacy and potentially

counterproductive effects of sterilized intervention are far more significant than the schism that would be created with the Treasury. In my judgment the answer is no, for the same reason that we acquiesce in an awful lot of crazy economics that go on out there--not only in the international realm among our trading partners, but within the rest of the U.S. government. We do have to maintain a relationship with them. We are independent, to be sure, but not from the Congress. Indeed we are not. So I think we have a very serious difficulty in making these tradeoffs.

I told \_\_\_\_\_ when we were talking about it in advance, that the thing we have to be concerned about is the probability that this intervention will fail. And a failure of the intervention as we go into the G-7 meeting would put extraordinary political pressure on everybody to say something. I said to him: If this fails, will you support a statement that says that Europe must address the fundamentals, which indeed are the cause of the weakness in the euro? And he said absolutely yes. I can't second-guess the Treasury on this; they have been very good over the last number of years and would probably not disagree with a word you said with respect to the evaluation of intervention. I think what we have to do is to make judgments as to how important certain issues are. I don't deny that this is an important issue. But I just do not think, at the level at which we are intervening and the infrequency with which we are doing it, that it creates an ongoing problem for us. Is it a negative? I agree with you that it is. Is it a significant negative? I don't think so. Would I have preferred that we didn't intervene? I certainly would. Would we be strongly opposed to another intervention? We told them we would be. They wanted to create some ongoing possibilities of intervention over a period of days, and we said absolutely not in terms of making any commitment. We did not shut the door completely. We said that in all cases intervention is a batch process. We do them one at a time but in the context of the conditions in each individual case. And I would say that so far this Treasury has been a lot less likely to cave in to foreign pressures than

previous ones. And in view of that I believe they deserve our support even though we do it with, I think, some significant chagrin. That's my view, anyway.

VICE CHAIRMAN MCDONOUGH. May I comment?

CHAIRMAN GREENSPAN. Sure.

VICE CHAIRMAN MCDONOUGH. I've been at the Reserve Federal for 8-½ years, having had Peter's job and now the Vice Chairmanship of the Committee, and I think economic theory is wonderful and is extremely helpful in guiding us in our judgments. But in my time here, I have found that very occasionally one reaches the point, as the Chairman has just been suggesting, that we as central bankers have to make practical decisions, knowing that they are not consistent with the soundest possible economic theory. This was one of those occasions. Given that this was our first intervention since 1998 and one of the very few that we have done over the course of many years, I think the members of this Committee should have the confidence that the Chairman makes these decisions very rarely, and in my view very wisely. He is helped a great deal by the New York Desk. I usually am actively involved and I am the person who is frequently called first because they know I usually say "no." And for some reason they have decided that a "no" from me is less appalling than a "no" from the Chairman. We are constantly telling others-- that interventions basically accomplish nothing. But there are very rare occasions, and I think this was one of them, when the overall responsibility for the management of the world economy, which is something in which we are the major player but not the only player, requires us to respond favorably to a request for intervention. But we do so on very arduous terms from the point of view of the requester. This latest case involved a request that we in fact have been actively turning down for months. But the situation had reached a point

. And in my



judgment, the monetary authorities of the United States very reluctantly made the right decision to join in the intervention.

When we are dealing with these situations we really don't want to be in the position of requiring a Committee meeting to say no because we say no 99.9 percent of the time. It would be extremely awkward for us to say, when we are in the middle of these rolling negotiations, that we have to tune out for X hours in order to have an FOMC meeting. With the track record of the Chairman and the amount of confidence that we have in him, I think having the Chairman make the decision on use of the System's money is appropriate. As a matter of fact, if the amounts involved get to a certain level, the Committee's standing procedural instructions provide that the Chairman shall clear the proposed intervention with the Foreign Currency Subcommittee--which currently consists of the Chairman, Governor Ferguson, Governor Kelley, and me. We are 100 percent in agreement with you on the theory, but pragmatic considerations very, very occasionally guide us to a different conclusion.

MR. POOLE. Mr. Chairman, if I may. What I think we need is a standing position that we do not share 50/50 with the Treasury in any intervention unless there is an explicit decision to do so. It is very awkward to say no when we have a custom of sharing 50/50. I understand that. It is that custom that I would like to see us change. And I think we have a context today that shows why we need to change that standing position.

CHAIRMAN GREENSPAN. Frankly, I seriously question whether it is worth fundamentally altering our relationship with the Treasury over what is effectively a very minor change. Remember that our money is really their money. If there is such a thing as a shareholder of the Federal Reserve, it is the U.S. Treasury. To the extent that we profit or lose in our foreign exchange operations, it nets out against our payment to the Treasury each year. In that sense it's

always their money with which we are trading. Whether we are splitting the intervention amounts 50/50 or 100/0, the net effect on Treasury budget receipts, so to speak, is invariant. So it is an act that essentially involves nonsubstantive accounting. I don't see what we avail doing that. I think we do far better going out periodically as we do--we all do--saying that intervention doesn't work. We've all said that publicly and I think that's far more relevant than our going through the motion of not participating in the transaction, of not doing 50 percent. I think that creates more problems than it solves.

MR. MCTEER. I have a couple of questions, but first I want to say that I think we have a good chance of making a profit on this one.

Going back to the Chairman's earlier question about how much did the taxpayers lose by our buying euros at the price we bought them, I assume that was in contrast to the price at which we could have bought them. What exactly are the mechanics of determining the price?

MR. FISHER. If I understand your question, it's the price we get when we enter the market. We call our counterparties and they quote a price at which we may buy. The Chairman's question had to do with the set of numbers across the bottom of page 4 in my material. Had the rate not traded up 2 cents, how much would--

CHAIRMAN GREENSPAN. The presumption being there was front-running.

MR. FISHER. The operation was front-runned or leaked--or at least there are all sorts of questions.

CHAIRMAN GREENSPAN. We are not just talking about the market going up. We're saying that a decision was made on Thursday--at what time?

MR. FISHER.

MR. MCTEER. I'm an innocent, so you may have to explain this in more detail to me.

You are saying that

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MR. FISHER. I want to be clear that I don't think

CHAIRMAN GREENSPAN.

MR. FISHER.

Little countries on the periphery of the exchange rate system of our world economy can have active reserve managers. I don't think it works for a major currency or even a component of it in an NCB to have an aggressive reserve management program. For your benefit, we at the Federal Reserve--as I'm sure you pretty much take for granted--do not adjust the currency composition of our foreign currency reserves other than through official acts of intervention. It's routine for other central banks around the world to trade actively for profit in the exchange market and to hedge their reserve positions actively and dynamically. Malaysia comes to mind in its operations a number of years ago. When it's a small country whose currency doesn't play a particularly dramatic role in the world economy, I think everyone knows how to deal with that. When it's a component of an institution that is one of the major central banks of the world, it really is very different. The Bank of England, I want to be very clear, has a long tradition of being an active foreign currency trader in the open markets. They've had some good and some bad experiences with that, and they've developed a century-long tradition that lends a note of distinction

to that kind of trading operation. I think that's the exception that proves the rule rather than a good pattern for others to follow.

MR. MCTEER. Another question is on the definition of sterilization. How do we know this intervention is sterilized on their part? I take it the definition of unsterilized intervention in this case would be that fewer euros and more dollars are created in the near future than would otherwise have been created. On our side, we are going to do what we are going to do without taking that intervention into consideration, but do we know that our counterparts at the ECB aren't going to take some actions that would keep the intervention from being entirely sterilized?

MR. FISHER. Well, we don't know what they will decide at their Council meeting later this week with respect to their interest rate. But just as we target an interest rate, they target an interest rate. So I've taken it for granted, and I think the market has too, that they will be managing their repo operations just as we would. And I believe there was some reflection of that in the market there.

MR. MCTEER. It is conceivable that their target for the interest rate will be different than it would have been had they not intervened, isn't it?

MR. FISHER. That will only come out of their Council meeting, just as it would only come from this Committee.

MR. MCTEER. I understand that, but--

MR. FISHER. It's possible.

MR. MCTEER. I'm saying that we're all talking as if this has been sterilized.

CHAIRMAN GREENSPAN. I think you're raising a slightly different issue. The degree of open market operations required to keep an interest rate constant, and hence the creation of, in our case dollars and in their case euros, can vary. So it is not the same thing as saying that if the interest

rate target is unchanged, the result is full sterilization in the sense that the actual open market operations offset the foreign exchange operations euro for euro. As a practical matter it is very close, but it doesn't have to be exact because they don't endeavor to do a full sterilization in the sense that the asset side of their balance sheet is literally unchanged and they merely shift from one currency to the other. They don't do that. What they do is to target an interest rate. Basically the net effect of that is almost exactly as if they were to offset the exchange rate transactions euro for euro. But it is not exactly that type of full sterilization. Nor does anybody do it that way. President Broadus.

MR. BROADDUS. Mr. Chairman, for all of my strident opposition to intervention over the years, I recognize that in particular cases such as this one tough calls have to be made. And we are in a difficult situation. But I certainly want to support the thrust of Bill Poole's statement. For me the problem has always been the damage that intervention and the prospect of intervention can do to the overall credibility of our longer-term price stability objective. To me that's the key problem. So I would support Bill and in particular his suggestion that at some point we consider trying to find a way in advance to commit ourselves to disengaging from this activity. While intervention may seem not to do great damage in a particular instance like this if it involves a relatively small amount of transactions, it still puts the possibility on the table; it's always out there. So I really believe we need to try to find some institutional way to get around it permanently.

CHAIRMAN GREENSPAN. I think we are doing that. We are doing it, hopefully, by education. I've had innumerable conversations with our counterparts in the central banks of Japan and Europe arguing the inefficacy of this kind of operation. A lot of us have. I know Bill McDonough has done that and so have a lot of others. And it has worked in part. I believe there has been a very major change in the general view about the efficacy of intervention among the central

bankers. The problem is that finance ministers change with some frequency. We convince one and then he leaves office. And his replacement starts tabula rasa. And it is by no means self evident that a currency cannot be stopped from moving merely by intervening. There are lots of economists who believe that. I won't go through a list of our friends who do, but there are some fairly prominent economists out there who seriously believe that we can effectively implement sterilized intervention and make it work. If one can't convince them, then it's pretty tough to convince a political person whose background is somewhat marginal in this area. But frankly, education is the best way that I know of to solve this problem--in other words to get less interest in intervention as a possible solution. And I would say that we've succeeded to a very large extent with the G-10 governors. We have just not done all that well with the rotating G-7 or G-10 finance ministers.

MR. BROADDUS. May I just make a quick follow-up comment? To me it's not the question of inefficacy or whether sterilized intervention does or does not have an impact of some sort over the short run. It's a matter of our credibility and what it does to that.

CHAIRMAN GREENSPAN. Supposing intervention works and we use it. What would that do to our credibility?

MR. BROADDUS. Well, I think it raises questions about what our ultimate fundamental objective is.

CHAIRMAN GREENSPAN. Absolutely, but it has nothing to do with our credibility. It may say that our policy positions are conceptually inaccurate or inappropriate.

MR. BROADDUS. I mean the credibility of a long-run strategy aimed fundamentally at longer-term price stability.

CHAIRMAN GREENSPAN. But supposing people could argue that sterilized intervention actually enhanced an anti-inflationary posture? If that were factually so, we would affect our credibility by not intervening. It's a factual issue; I don't think it's a credibility issue.

VICE CHAIRMAN MCDONOUGH. Let me return more to President Poole's argument, and perhaps make a less subtle comment than the Chairman just made. If you really want us out marketing the view that intervention is a terrible idea, we can do it much more effectively with our present relationship with the Treasury than we can without it. The amount of influence that we have in international circles is enhanced by the role we play. So it isn't just Alan Greenspan, Bill McDonough, and others around the table giving our pet idea on some theory, but rather that we also have power--and "clout" in the language of my native city--and that's very important for us. So in my view we are carrying your gospel more effectively with the present arrangement than we would without it. I'm absolutely convinced of that.

CHAIRMAN GREENSPAN. Any further comments? If not, would somebody like to move to ratify the foreign exchange activities of the Desk?

MR. FERGUSON. I'll move to ratify the foreign exchange activities of the Desk.

CHAIRMAN GREENSPAN. Is there a second?

VICE CHAIRMAN MCDONOUGH. Second.

CHAIRMAN GREENSPAN. Objections? Thank you. They are approved.

Would somebody like to move to ratify the domestic operations?

VICE CHAIRMAN MCDONOUGH. So move.

CHAIRMAN GREENSPAN. Without objection, they are approved.

Before we move on to the economic discussion, let me just say that this issue of intervention will reemerge periodically and I think this was a very useful discussion. I believe the

notion that you raised is an important one and was well worth discussing. But if any of you have significant thoughts on this issue, a memorandum to either Peter or Don or Karen would be useful to give us a fuller view of where the Committee is in this regard. Let's turn now to Dave Stockton and Karen Johnson.

MR. STOCKTON. On the whole, the data we have received over the past six weeks have not materially changed our view that the economy is easing onto a path of below-trend growth. Indeed, we have made relatively few changes to either our trajectory for overall real GDP or to the underlying components of demand. With respect to inflation, the figures have contained few surprises aside from the further strengthening of oil prices.

Perhaps the most convincing evidence of a cooling in activity can be found in labor markets. Monthly gains in private payrolls, which had averaged nearly 200,000 in the twelve months preceding March, have dropped off to an average of about 150,000 per month since then. Moreover, the workweek has slipped a bit since the spring and aggregate hours worked have been about flat. In that regard, it is striking that the entire 3 percent gain in real GDP that we have projected for the third quarter is expected to come from increased productivity.

The growth of manufacturing activity also appears to have ratcheted down from the rapid pace of late last year and early this year. For the most part, the signs of slowing appear to reflect the identifiable macroeconomic influences that might be expected to follow a tightening of monetary policy. Auto production is being trimmed in response to some settling back of retail demand, the production of construction supplies has weakened perceptibly, and some materials production--most notably steel--has taken a hit from softening domestic demand and heightened import competition. Production in the high-tech sector continues to advance briskly, but there does appear to have been some moderation here as well after the stunning gains we saw earlier this year.

Spending for high-tech equipment also appears to have slowed some in the third quarter, especially for communications equipment. Coupled with the hit that many high-tech companies have taken in the equity markets of late, some reports of slowing demand have raised concerns about whether this is an area poised for some retrenchment. To be sure, there are risks here, but we do not yet see the case for abandoning our relatively upbeat outlook. In our forecast, high-tech investment participates in the moderation of investment demand that we expect to accompany the downshift in the pace of final sales. But with the relative price of this equipment still declining at a steady clip, the backlog of unfilled orders high, and considerable unexploited opportunities apparently available, we continue to expect high-tech investment spending to expand quite rapidly. Other capital spending also has slowed of late, and we are projecting



the growth in these outlays to remain more subdued going forward owing to the slower pace of business sales and the less favorable financing environment that we are expecting over the next two years.

In addition to somewhat less ebullient business outlays, our projection depends importantly on a sustained slowdown in household spending. Here, the recent data certainly could give one pause about our story. Over the past two months, activity in housing markets has experienced a bit of a resurgence. No doubt, the drop in mortgage rates has provided a lift to construction--more so than we had anticipated. But, even with the recent upturn in starts, residential investment is likely to post a sizable negative for the third quarter. I should note that new single-family home sales--released this morning--were revised down about 2-1/2 percent in July, and they dropped 3 percent in August.

The consumer spending figures also have picked up noticeably of late, but we had largely anticipated this bounce back from the sub-par second-quarter gain. Moreover, with the exception of that small second-quarter increase, our projected growth of 4-3/4 percent in real PCE in the third quarter would be the slowest in a year and a half.

Looking ahead, with mortgage rates still up nearly 75 basis points from the middle of last year, with income gains having moderated considerably, and with the stock market having moved sideways this year, we believe that there are solid underpinnings to our forecast that household spending is likely to remain more subdued for the remainder of the year.

A continuation of below-trend growth in GDP seems the most likely outcome as we move into 2001. The lagged effects of your previous tightenings should still be playing out over the next year or so. By 2002, those effects begin to wane, and along with a bit more stimulative discretionary fiscal policy, more rapid growth of exports, and our projected acceleration in structural productivity, there is a more noticeable quickening in the pace of real GDP growth. That pickup is largely held in check by the further increases in the funds rate that we have assumed for late next year and early 2002. With the growth of GDP continuing to run below that of potential output over the forecast interval, we expect to see the unemployment rate rise to 4-1/2 percent by the end of 2002.

Although the increase in the jobless rate and our projected gradual decline in oil prices relieve some pressures on business costs and prices, we expect core inflation to extend the updrift that has occurred over the past year or so. As you know, that very modest deterioration in our outlook for inflation balances what we view as two key influences about which there are considerable uncertainties--the tightness of resource utilization and the pace of structural productivity growth.

In recognition of those uncertainties, we gave a bit more emphasis in the Greenbook to the longer-term forecast than is customary for us when adding a year to the projection. I trust that you will not confuse that greater emphasis on the longer term with any greater conviction on our part about our ability to predict how the economy will evolve two years hence. But we thought it might be useful to illustrate just how sensitive our forecast is to our assumptions as we extend our projection into 2002.

I won't go into the details of the myriad simulations we included, but I thought two scenarios are worth special note. First, what if changes in the structure of our labor and product markets have made it possible for the economy to sustain in equilibrium a 4 percent rate of unemployment--or at least allow us to sustain it to the end of 2002? In our simulation of a 4 percent NAIRU, core price inflation slows gradually, rather than increases gradually as in the baseline. Under these circumstances, the need for any further tightening is clearly eliminated, and some easing might be called for. On the surface, this scenario seems consistent with what might be built into current financial market expectations.

The second simulation I want to mention is the one that examines the sensitivity of our outlook to the continued acceleration we are forecasting for structural productivity, from a pace of 3-1/4 percent in 1999 to 3-3/4 percent in 2002. We contrast our forecast to one in which the pace of structural productivity has improved, but only to about 3 percent, where it remains over the next two years. This latter assumption appears to be closer to the consensus forecast of outside economists. If that consensus turns out to be closer to the mark, the simulations we present suggest that the performance of the economy will not be nearly as rosy as we are expecting. The growth of real output will be slower, the unemployment rate will be higher, and inflation will be increasing noticeably.

For the reasons discussed in the Greenbook, we are comfortable with the choices we have made about these key elements in the forecast, but there certainly is considerable scope for reasonable men and women to come to different conclusions.

One final important risk in the outlook worth mentioning relates to developments in world oil markets. In this forecast, we have yet again raised our projected path of crude oil prices. This has resulted in slightly higher headline inflation figures, especially in the second half of this year. Those higher prices depress disposable incomes a bit, and tend to weaken our projection for consumer spending.

In putting together this forecast, we asked ourselves whether our inherent "incrementalist" approach could be leading us to miss the bigger picture. The cumulative revision in our oil price forecast since January has been about \$9 per

barrel this year and has been about \$8 per barrel in 2001. Could the total effects of a shift in prices of this magnitude be larger than the sum of the smaller changes we have made to the forecast? With one exception that I will mention shortly, we answered no to this question, at least for now. But there are reasons to be concerned.

On the spending side, we have assumed that households have responded to the negative real income effects of higher energy prices both by reducing spending and by dipping into saving. Consequently, to the extent that households have viewed the runup as partly transitory, the spending effects have likely been muted. But if at some point there is a more pronounced reevaluation of the likely permanence to the rise in oil prices, there is a risk of a more abrupt downshift in consumer spending.

In financial markets, small changes in oil prices produce some winners and losers, but probably don't have significant net effects. By contrast, large and volatile changes in oil prices could add appreciably to uncertainty about the outlook and result in some pulling back from the markets--with consequences for valuations and, ultimately, spending.

There are risks, as well, on the inflation side. Firms may have absorbed some of the higher energy prices in profit margins, in the hopes that these prices would soon recede to earlier levels. At some point, businesses may be forced to throw in the towel and raise prices more aggressively. Workers, too, may have absorbed the direct effects of higher energy prices in lower real wages. But a higher and more persistent level of prices could eventually encourage attempts to restore some of the lost real wages through higher nominal wage demands.

To date, we think all of these factors have been at work in small ways, but not in the more abrupt, self-reinforcing, and nonlinear manner that could pose more significant risks to the outlook. Consumer confidence has remained high, equity markets have not softened appreciably, and inflation expectations appear to be well contained. But we will be watching these developments closely in coming weeks.

The one area where we made a discrete change was productivity. The rise in oil prices has now been large enough and is expected to persist long enough that we think there could be some minor adverse effects on multifactor productivity. The need to economize on energy inputs in production and the effects on the profitability of the existing capital stock of the higher relative price of energy have led us to chip a bit off the growth of multifactor productivity over the next couple of years. Nevertheless, the change is not large enough to prevent some further acceleration in structural productivity.

Karen will now discuss how some of these risks could play out in the rest of the world.

MS. JOHNSON. As Dave noted, the extension of our forecast through 2002 provides an opportunity to consider some longer-term issues and risks. In particular, the longer forecast horizon allows the implications of our projections for foreign activity, the exchange value of the dollar, and, importantly, global oil prices to be clearly evident in the outcome for real exports and imports. The basic picture we have presented for the rest of the world remains one of robust growth with inflation that is largely contained. As always, a few spots on the globe merit some concern on our part. Argentina has yet to achieve sustained recovery from the recent crisis despite the rebound in growth in its Latin trading partners. Some Asian economies, for example the Philippines and Indonesia, still are struggling with the economic implications of what are fundamentally social and political problems. And the picture remains somewhat mixed among the transition economies of Eastern Europe. Nonetheless, to the extent we can discern such things, the risks in these countries appear to be country-specific and not likely to trigger broader crises and contagion should trouble erupt.

In putting together the baseline forecast for the foreign outlook, we too grappled with the issue of how best to frame the questions raised by the recent shift up in spot and futures oil prices. We continued with our practice of relying heavily on these market prices in specifying the path for global oil prices that is incorporated in the outlook. The view implicit in the futures curve that oil prices are likely to come down over the near term as some elements in demand ease off and supply remains steady seems reasonable. But the higher level for the entire path relative to that in the August Greenbook reflects our agreement with market sentiment of greater uncertainty about the balance of global supply and demand over the forecast period than seemed to be the case six weeks ago. Nevertheless, we recognize that there are circumstances that could cause oil prices to fall more rapidly than we have now in the forecast as well as others that could generate further upward pressure in the short term.

In the baseline Greenbook forecast, the implications for foreign real economic activity of the more elevated path for oil prices vary--depending on whether a country is a net exporter or importer--and are generally quite small. A small impact is consistent with the substantial reduction in the energy intensiveness of real output in nearly every major country over the past thirty years. In addition, we see the current upward pressure on oil prices resulting to a significant extent from the strength of global demand. Global oil production is now above the level reached before OPEC implemented supply restraints in the spring of 1999. However, that supply has not been sufficient to keep prices from rising in the face of the increased demand. Under these circumstances, we do not anticipate that the elevated energy prices will have the negative effects on business and consumer confidence that characterized previous oil crises.

With oil inventories apparently low and supply disruptions still a possibility, we included in the Greenbook an alternative scenario for oil prices. The particular path that we simulated is that of the price of oil rising to \$40 per barrel and remaining there over the entire forecast period. This alternative is not the most likely path for prices in the event of a supply disruption. But it does have the property that the oil price is high enough for long enough that our models would show noticeable effects on real activity from the direct impact of higher energy costs. For the United States, the assumption used in the model about the response of monetary policy determines whether the impacts of higher oil prices are almost entirely on prices--the outcome when the fed funds rate is kept at the Greenbook baseline--or almost entirely on output, the outcome when monetary policy is tightened in response to the increase in oil prices. Clearly, intermediate outcomes with some effect on both inflation and output are possible for monetary policy choices that are between these two.

For the rest of the world, our model suggests that the impact of this higher oil price path is noticeable, but not severe. The particular impact varies from country to country, depending on its oil production status and on the strength of links to the U.S. economy and the U.S. monetary policy response. Secondary effects are transmitted across countries through relative exchange rate changes that in turn depend upon the monetary policy responses to higher oil prices. Our model results suggest that over the next two years the impact on weighted average foreign GDP growth could range from negative 0.1 to 0.3 percentage point. The effects on U.S. real exports and imports depend on the particular U.S. monetary policy assumptions, but on balance U.S. real exports are boosted because of the relatively large share of U.S. exports to the oil-exporting countries such as Mexico, Canada, the United Kingdom and OPEC. In nominal terms, the higher cost of U.S. oil imports swamps effects on our exports and non-oil imports; accordingly, the U.S. nominal trade deficit and current account deficit widen significantly in response to the sustained higher oil price.

As in the Greenbook, we did not put into this simulation additional influences on private investment or consumption that might arise from confidence factors. Such effects clearly could generate a more negative outcome than this model simulation suggests. But any judgment on our part of how large to make these negative effects under current circumstances would be totally arbitrary.

On balance, we are left with the conclusion that the effects of higher oil prices per se are not likely to threaten our quite positive outlook for the global economy. More negative outcomes are possible, but they depend importantly on where the shock arises and how it is transmitted into the global economy.

As a footnote, I would like to report on the Japanese Tankan survey for the third quarter that was released overnight. That survey showed a bit more positive change than the markets or we were expecting. Most of the positive

news relates to responses from large manufacturers; small manufacturers and non-manufacturers continue to lag somewhat behind. We continue to be skeptical about the strength of the recovery in Japan and look for real GDP growth there to remain positive over the next two years, but at annual rates of growth in the 1 to 1-1/2 percent range.

We'll be happy to answer your questions.

CHAIRMAN GREENSPAN. Are there any useful data supporting the general notion of a modest slowdown in the rate of flow of capital from Europe to the United States? What do we know about that? I ask because I keep seeing a number mentioned which I don't quite see in the balance of payments data.

MS. JOHNSON. I don't see that in the balance of payments data either. We'll get Q3 data with some lag and then we'll get the foreign direct investment numbers. It's not until we actually have the balance of payments data for the quarter that we get the FDI.

CHAIRMAN GREENSPAN. We do have portfolio data?

MS. JOHNSON. We have portfolio numbers. I think there are hints in that but I wouldn't say there's anything convincing one way or the other. But the Europeans, who on their side may have more data by country that aren't yet published, say this to me.

CHAIRMAN GREENSPAN. It takes a long time for it to go from there to here.

MS. JOHNSON. If there is a slowdown, it's not dramatic yet, that's for sure. But the Europeans seem to be of the view that there has been, and it may just be that they're counting the numbers associated with the mergers and acquisitions that are going through because in some sense that is what has triggered some of the most visible flows. But that's a very volatile series and it's hard to see whether a trend has really emerged in it.

CHAIRMAN GREENSPAN. Other questions for Karen or David?

MR. POOLE. I have two distinct questions, which are completely separate. The recent earnings warnings that have come out of Apple and Intel--and I believe Xerox and maybe some others--have referred specifically to September sales as being considerably weaker than anticipated. Is there something there that those companies are seeing that we're not seeing? Or do you think, having made more buoyant forecasts earlier, that this is in part a way of covering themselves with the analysts? That's one question for you.

Secondly, I want to congratulate the staff on its careful work on energy. I think that was very helpful. At least on my reading of that work, this is much more than an oil price shock. What we have is a worldwide demand shock at work here and there's a normal lag in trying to adjust production for changes in demand. Also, there was some confusion over the inventory of stocks that has been built and that kind of thing. But I think a major part of this story is a worldwide demand shock. I believe that is very important to emphasize because the general discussion of this in the press--including some of the comments economists have been making about it--I find almost embarrassing. But I do have a question because I understand that a lot of the problem now is with refining capacity. So, even if we get the crude oil, we may have trouble getting the finished product. I understand that refineries in the United States are going flat out. What do we know about refineries elsewhere in the world and how close to capacity they are operating? And do we know anything about the amount of new capacity that's coming on stream or how long it takes to add capacity in refining?

MR. STOCKTON. Well, I'll start with the first question on the technology sector. We have not heard uniformly the same kind of reports on weakness in sales that some of the manufacturers have reported. Dell, for example, and Compaq have reported that demand has held up quite well. So at this stage we're nervous but we're not yet willing to concede that there has been

some sea change going on in the tech sector. As I indicated, the orders picture still looks quite good in the aggregate. And we're just reading this as part of the noise associated with many of these companies. For example Intel's stock price, which has taken such an enormous hit, is still back only to where it was at the turn of the year, after having run up steeply. So we're paying careful attention but we don't think this is necessarily the beginning of some significant softening. Obviously, if it were, it would be troubling because an important part not just of our aggregate demand forecast but our aggregate supply forecast relies on sustaining relatively good performance on the investment side. So it is a concern.

On the issue of refining capacity, things are tight domestically. I don't know about the rest of the world. We do think, however, that there's probably a bit more elasticity in terms of the ability to raise production--for example, of heating fuel going into the winter--than just looking at the overall level of capacity utilization might suggest. Now, that means, I think, that we will be more vulnerable to any shocks that could occur over the next few months, weather being the most obvious one. But judging from the prices of both the heating fuel and crude oil, we're not seeing something that would suggest the anticipation of exceptionally higher refining margins going into the winter--just normal seasonally high type margins.

MS. JOHNSON. I might be bold enough to add a thought regarding domestic refining, and that is the issue of maintenance. There is some question as to how much refining capacity will be shut down for routine maintenance--whether or not that might be postponed a little. That could give us some leeway to get a bit more product into inventory before the maintenance occurs.

With respect to refining capacity overseas, the information I have is that the refineries are operating at fairly high levels of capacity, but not at what one would describe an absolute maximum. So, there is a small amount of room there. As to whether in the end that would result in product



trades that we wouldn't ordinarily see happening in the United States, I think there is some scope but not much scope. And any accident in a refinery, or any type of unexpected shutdown, could certainly change that picture quickly.

CHAIRMAN GRENSPAN. Governor Gramlich.

MR. GRAMLICH. I'd like to second Bill Poole's compliment of the Greenbook, not only on the material on oil prices, but also on the simulations with alternative NAIRU and productivity assumptions. I know you've done these before in the Bluebook and elsewhere, but with the potential shocks that are possible now I think it makes sense to put these types of exercises in the category of things that are done all the time. With the simulations now being elevated to page I-15 of the Greenbook, I think we're getting closer to that. And I think that's good.

Also, going to half years doesn't seem like a big deal. We've always been able to flip over to the green pages and get the quarterly numbers, but only for the baseline. And if one is interested in the effects of a set of assumptions, it's much more informative to have half years than full years. And thirdly, I liked the extension of the forecast horizon. We know that it's hard to forecast two years out, but a lot of what we worry about here is in the drift. And often we really can't see that if the forecast just goes ahead another six quarters. This extension makes the drift in the forecast very apparent. So in all senses--both the oil price analysis and the productivity/NAIRU simulations--this Greenbook was to me much more informative than some of the earlier ones.

MR. HOENIG. Dave, let me ask you a question. In reading the Greenbook and your projections, I know you haven't changed your forecast much from the last time. We need to adjust for energy, I understand. But in listening to you I sensed a little more of an acknowledgement of some downside risks in the economy emerging in manufacturing and elsewhere. Is that a fair

description of the tone that I heard this morning--that there is a sense of greater downside risks than you felt before, even though the projections themselves are pretty much unchanged?

MR. STOCKTON. I'm not sure I would say that in the aggregate I see the downside risks as larger than the upside risks to this forecast. There are a couple of areas that I wanted to highlight. One relates to the developments in the technology sector. Second, while our simulations suggest that the oil price increases should have a relatively modest effect on overall output, I think there are risks in that regard as well. On the confidence side, we haven't seen much effect yet. Nevertheless, one could easily imagine if we got not just a price spike but a true supply disruption comparable to what was apparent in Europe this fall, there could be a more pronounced negative effect on overall sentiment. On the other hand, there are a couple of areas where we could envision some upside risks. One I cited was the housing area. While we think that is likely to be short lived, we were surprised by the vigor of the recent rebound. And while consumer spending has turned out pretty much as we had anticipated, on the whole there has probably been a firmer tone to what has occurred in that sector. So I think we see a bit of upside and downside risks there. I think in a period of slowing it's natural to be more concerned about the downside risks one is identifying because often developments occur that tend to reinforce that downward momentum.

MR. HOENIG. Thank you.

CHAIRMAN GREENSPAN. President Minehan.

MS. MINEHAN. Thank you, Mr. Chairman. I, too, want to add my thanks to the staff for doing as much work as they did, particularly on the supply side issues, forecasting out further in time, and the alternative productivity and NAIRU simulations. They were helpful to me in thinking about some of these issues.

I'm interested in your table on structural labor productivity on page I-9. We used to think that productivity growth at something around 2 percent, or maybe a little lower, would double the standard of living of the United States in something like 40 years. In noticing the tick up in structural labor productivity from 2.9 to 3.7 percent over the forecast period, I was struck by the fact that this would suggest that the time period over which a doubling of the standard of living would occur is now something closer to 20 years. That is rather awe inspiring, and maybe it's true. I guess there have been short periods of time in the past when that kind of productivity growth has occurred. But thinking about it that way struck me.

The second issue, with regard to the alternative simulations, involves the feedback effect from productivity into demand. We're looking at numbers--at 4 percent or a little better for both 2001 and 2002--that are at least  $\frac{1}{2}$  percentage point or a bit more than the consensus of forecasters. If one takes away the assumptions about rising structural productivity, as you mentioned, demand is down to around the mid 3 percent range. That's a big change. And it seems to have to do totally with the feedback from productivity into demand, either positively or negatively. I just thought I'd mention those points that occurred to me as questions or observations as I looked at this and ask you to comment on them.

MR. STOCKTON. With respect to the productivity forecast I'd say two things. One is that we have had occasions where multifactor productivity has risen at this pace for an extended period of time. So this wouldn't be something that is unprecedented historically. Secondly, however, if we were doing a 10- or 15-year forecast, I don't think we would necessarily project either the growth of multifactor productivity or the pace of capital deepening to be sustained at the kind of increases we are seeing now. In some sense the approach that we have shifted to here, which

endogenizes these supply side factors, means that we are also going to be sensitive to future business cycles where a period of slowing in overall activity could feed back into investment and therefore--

MS. MINEHAN. So this is sort of temporary?

MR. STOCKTON. Yes, in the sense that we're only forecasting out through 2002. Over a long-term horizon I'd certainly hate to be pinned down in forecasting developments in an area where we have not exactly covered ourselves in glory even over the short term. But I would caution that if I were a budget analyst, I wouldn't necessarily take that 2002 figure and extend it out for the next 10, 15 years.

MS. MINEHAN. So do you have any idea where this plateaus?

MR. STOCKTON. As the Chairman has noted many times, we're not sure where we are in this technological diffusion process. That knowledge really is so important in terms of getting to the crux of this matter. And it is just terribly difficult to know. Thus far the overall return to capital has not shown any signs of tipping down, though one might expect it to do so. If we were really pushing capital deepening in a sense beyond where it ought to be, we would expect to see a significant weakness. Now I would quickly want to--

MS. MINEHAN. There has been a bit of a downturn from the very high levels.

MR. STOCKTON. Yes, that's true; there has been just a tad. The downturn is pretty much within the noise of those data at this point. But I would also caution that what we are really observing there is the average return to capital, not the marginal return to capital. If one were concerned about the tech sector, for example, it's possible that the most recent investments aren't going to reach the same rates of return that investors either are looking for or have experienced in the recent past. So I think there are some risks there as well. We just don't know where we are in that

technology-spreading process at this point. Nevertheless, at this stage we don't see any reason to think that it's going to be on a slowing trend in terms of multifactor productivity.

With respect to the feedback effects, in the case where we show a lower growth of structural productivity, those effects are quite potent in the model for the reasons that we discussed earlier this year on the up side. In that simulation there are going to be some significant disappointments in the growth of output and the growth in profits. Those disappointments would lead to some retrenchment in overall equity markets, as well as some downshift in people's desire to add to the capital stock of housing and automobiles and other consumer durables. That in turn leads that simulation to produce a significant weakening in overall activity from its recent pace. But even with that weakening, that lower productivity assumption is potent enough that we could still get some increase in overall inflation. So it's the worst of all possible worlds.

MS. MINEHAN. Yes. Slower growth, higher inflation.

CHAIRMAN GREENSPAN. If nobody else has questions or comments, would somebody like to start the Committee discussion? President Parry.

MR. PARRY. Mr. Chairman, employment in the West continued to expand at a solid 2-3/4 percent pace in July and August. In contrast to the remainder of the District, California's job count has slowed somewhat in recent months. The data show weakness in business services, in part due to layoffs at some dot-coms, although indications are that those laid off are having no trouble finding jobs. Construction employment also has tailed off. Even so, the employment statistics may be overstating the slowing in the State, given that growth in income tax withholding in California has remained strong.

An area of strength in the District has been high-tech activity related to semiconductor manufacturing. The semiconductor industry has added manufacturing jobs in the District this year,

following two years of job cuts. And worldwide semiconductor sales are running well ahead of last year. The pickup reflects strength in the demand for chips used in Internet-related products, hand-held computers, and communications devices.

Across the District, however, real estate activity--both commercial and residential construction--is moderating. Office rents have leveled off in a number of cities in the region, including Los Angeles, San Diego, Phoenix, Las Vegas, and Salt Lake City. In contrast, rents continue to climb in the San Francisco Bay and the Seattle areas. Prices for wholesale electricity remain high and volatile in the West. The California Public Utilities Commission has adopted a rate stabilization plan for the deregulated San Diego area. However, this plan, along with the existing rate ceilings in other parts of California where deregulation has been only partly phased in, has only put off the decision about who will cover the billions of dollars in revenue shortfalls for companies such as San Diego Gas and Electric, Pacific Gas and Electric, and Southern California Edison.

Turning to the national economy, I find it encouraging that core inflation hasn't accelerated in recent months despite higher oil prices and that the pace of economic activity seems to have moderated in the third quarter. Like the Greenbook, our real GDP forecast for that quarter shows an increase of 3 percent, which is down about ½ percentage point from our August forecast. Obviously, it's too early to tell if the slowdown will be sustained, but developments in financial markets this year, with modestly lower equity values and a higher dollar in combination with our past tightening actions, should help to contain demand. Of course, the wild card for both inflation and economic activity is energy prices, which have defied expectations of a substantial decline for some time now. Our longer-term forecast shows growth in real GDP slowing from 4-1/4 percent this year to a range of 3-1/2 to 4 percent next year under the assumptions of no further change in the funds rate and a constant value of the U.S. dollar.

Even with the slowdown we are expecting, labor markets will remain tight through the end of next year, generating some upward pressure on core inflation. Higher energy prices also have boosted our forecast of core inflation to some extent. As in the Greenbook, our forecast assumes that energy prices will decline over the next several quarters, which works to obscure upward pressures in our core inflation measures. We expect core PCE prices to increase about 2 percent this year and slightly more next year. Overall inflationary risks may have lessened a bit since we met in August as it now seems more likely that the economy really has entered a slowing phase. But to me the balance of risks for inflation going forward still is on the up side and I don't think we should be content with core inflation measures as high as 2 percent, especially given the likelihood that they may be rising. Thank you.

CHAIRMAN GREENSPAN. President Guynn.

MR. GUYNN. Thank you, Mr. Chairman. I would now characterize growth in our Southeast region as moderate. While conditions have not changed materially since our last meeting, we are seeing some further signs of slowing in the pace of growth, and I will mention just a few.

More retailers than before are acknowledging that sales are falling below plans and those expectations had already been adjusted down. The trade imbalance is very obvious in our port cities where imports are expanding at twice the rate of exports. And we may be seeing the first hints of some slowing in the pace of tourism. Fall bookings in our major tourist markets are just slightly ahead of last year and growth in casinos along the Mississippi Gulf Coast has slowed markedly. The latter may be at least partially attributable to saturation and some environmental controls over development.

We try to keep an especially close eye on real estate since it has been our region's Achilles heel more than once in past cycles. Although the FDIC recently included Atlanta among

cities where it has concerns about overbuilding in commercial real estate, our economists and bank examiners have not yet seen the telltale signs of trouble. Office vacancy rates remain in the 10 to 15 percent range in the District's major metropolitan areas. And commercial industrial vacancy rates in all but Orlando have remained stable or declined in the past year or so. One area we are watching in Atlanta is the dependence of the office market on high-tech companies. In 1999 high-tech tenants accounted for 80 percent of the net absorption of new office space, although a good share of that was established mainline high-tech companies and not the more volatile dot-coms. We also note a growing sense of general caution as the pace of economic activity has moderated. Our larger banks report that loan demand has declined noticeably from year-ago levels. And there is evidence that financing terms are now more stringent, especially for second-tier borrowers. I also hear more stories of projects being put on hold until the future path of the economy becomes clearer.

As I noted when we last met, there are a few places where labor markets are a bit less tight, but our regional unemployment rate is still a tick or two below the national level and labor availability remains an issue. We detect no specific areas of new price pressures other than a general concern about higher energy costs, their future path, and the longer-term implications.

As far as the broader national economy is concerned, we see further confirming evidence of the moderation we talked about in August. As has already been noted, in addition to a slowing in housing and autos, manufacturing, especially outside of high-tech, continues to moderate. Our modeling work suggests that the moderate rate of growth will likely continue. Like others, we have spent considerable time trying to assess the implications of the run-up in oil prices. And I would echo the comments of others that the staff papers we got on that subject were particularly helpful. While clearly there has been some modest impact on GDP, it does not appear to be large. Perhaps the most important implication may be the effect on inflation expectations, as the most recent run-up



works its way through the headline inflation measures and as consumers begin to get their winter heating bills. If the higher oil prices turn out to be short-lived, as futures markets believe to be the case, then this may turn out to be only a modest shock.

We are encouraged by the generally benign inflation data, although when one decomposes the current inflation path into the energy component and other components, there remains an upward tilt in core prices that should not be discounted. I think we have to be pleased with the moderation we are getting in economic activity and the more sustainable path the economy seems to have settled into. At the same time, I believe it would be premature to adjust our much-watched balance of risks statement. For me at least, there are a number of upside risks on the inflation front. Those include the uncertainty about the long-term sustainability of the recent very large productivity gains and their implications for unit labor costs, the possibility of a more stimulative fiscal policy, and the real and expectational inflation effects of higher energy costs still working their way through the pipeline. I think we are where we want to be, at least for the moment. Thank you, Mr. Chairman.

CHAIRMAN GREENSPAN. President Broaddus.

MR. BROADDUS. Mr. Chairman, at our meeting in August the information on our District that I had at the time suggested a more mixed picture in the lower Middle Atlantic region, at least by comparison to the unambiguously strong growth we were seeing in the first half of the year. And the picture is still mixed. As has been mentioned for other Districts, there are signs of moderating activity in some sectors. Higher fuel prices are damping sales of vehicles generally, especially the larger SUVs and trucks. They are squeezing the profits of some of the trucking companies in our region, and we have a large number of these companies. But at the same time, a significant portion of the anecdotal information we have received in the last two or three weeks suggests that demand may be strengthening, or at least not weakening any further. Just to cite a

couple of examples to back that up: Back-to-school sales were reported to be unexpectedly strong in our region, and those are sometimes said to be harbingers of upcoming holiday sales; recent declines in mortgage rates have definitely stimulated new residential construction and sales of both new and existing homes in our area; and respondents to our latest monthly services sector survey indicated that their revenues were firming.

Also, labor markets are still very tight in our area. Our Small Business and Agriculture Advisory Council met last week, and though they told the same old story of a tight job market I was struck by the intensity of some of the comments members made about the competition for capable workers. One fellow said that he had recently raised wage rates across the board by about 10 percent to stop what he referred to as “poaching” of his workforce by his competitors.

In sum, of course it is always hard to know whether this somewhat stronger tone in the last several weeks is just noise or perhaps seasonal influences. Nevertheless, I have some sense at least that business activity is no longer decelerating in our region.

With respect to the national economy, I think the key questions right now center on the underlying growth rate of structural productivity, the extent to which that growth rate is anticipated and perceived by the public, and the net impact of those two factors on inflation going forward. I see that impact working through two channels: First, the effect on the aggregate demand/supply balance and second, the effect on unit labor costs. And I want to add my compliments to the others you've received, Dave and Karen, because the simulations, especially the ones on productivity, were very helpful in thinking through these issues. I know I am repeating other compliments, but I have been reading these Greenbooks for 30 years and I think you are on a roll!

The baseline Greenbook forecast projects high but fairly steady structural productivity growth over the forecast horizon that is fully anticipated by the public. I think that is a key point. If

that turns out to be right, then the apparent moderation in demand nationally over the second and third quarters may be a good sign. It may indicate that we have the real funds rate now where it needs to be to bring the growth of aggregate demand in line with the sustainable growth of potential output. But, obviously, there are other possible outcomes and you recognize a lot of these. We could have a further acceleration of structural productivity growth, although that is not very likely at this point given the level of your projections. A more likely prospect, I think, is that the increases projected by the Greenbook for the current year and for 2001 and 2002 are not yet fully anticipated. They are, after all, higher than most of the published or publicly announced private sector projections and simulations I've seen. If the Greenbook projections are right, expected future income and wealth would rise as the public recognizes that productivity growth is higher than they had anticipated, and that could generate renewed excess growth in demand going forward. Now, your productivity surprise simulation, of course, incorporates this effect and recognizes that at some point that could put upward pressure on inflation. But the actual numbers in your simulation show virtually no effect, at least for the next couple of years. I guess what happens is that the presumably positive effect on demand is outweighed by the negative effect on unit labor costs. And I recognize that things could well work out that way. But the near-term impact of a further increase in expected income and wealth on aggregate demand could well be greater over the forecast horizon of the next few years than the simulations suggest. That could be a problem since we are already seeing at least an uptick in core inflation. And many people are projecting a further increase as recent energy prices work their way through the economy or if the dollar drops more than anticipated in the Greenbook forecast. So, like others, I think the balance of risk is still on the up side, though maybe not as decidedly as it was a while back. Therefore, I also think that we should leave the tilt in our press release in place.

I believe it is worth reminding ourselves in this context that the accelerated technological progress and capital deepening are not the only factors driving the “new economy,” if that is indeed what we have. Another absolutely critical element has been our enhanced credibility--first, that we have achieved price stability or some close approximation of it and secondly, that the credibility of our strategy is so much stronger than it was. And I don't think we should take that credibility for granted. I think the latter part of Bob Parry's statement was right on the money and I would certainly agree with his point of view on that. Thank you.

CHAIRMAN GREENSPAN. President Santomero.

MR. SANTOMERO. Thank you, Mr. Chairman. It is a pleasure to have an opportunity to talk about conditions in the Third District. Activity in our District is basically flat, with some decline in interest rate sensitive sectors. Employment declined for the first two months of the third quarter, but most of that was attributable to the Verizon strike and the layoffs of Census workers. The unemployment rate has remained steady at about 3.9 percent for the three states, slightly below the nation's 4.1 percent rate. Consumer price inflation is accelerating in the District but remains below that of the nation. Employment costs accelerated in the first half of the year reflecting tighter labor markets. Somewhat surprisingly, given the recent increases in oil prices, manufacturers in our Business Outlook Survey reported less upward pressure on prices paid than they did earlier in the year. Most manufacturers are holding their own prices steady. Signs of slowing are found in construction and bank loan growth. Housing permits, employment in the construction sector, the value of residential and nonresidential contracts, and both existing and new home sales are down from levels at the beginning of the year. At the same time, C&I, consumer, and residential mortgage lending have slowed somewhat since June. While retail sales did show a rebound as a result of back-to-school sales, year-over-year increases were below expectations, contrary to some of the

comments of others here today. And retail sales were flat this summer. The outlook over the next six months is that growth will resume but that the pace will be no faster than in the first half.

In terms of our perspective on the nation, economic growth in our view slowed in the third quarter toward its long-term trend rate but may be picking up in the fourth quarter. Household investment in housing and vehicles slowed from the pace we saw earlier in the year but appears to have stabilized. Still, if oil prices remain high, the effect on growth could be negative, though probably not as big as the effects in the 1970s and 1980s. Equity market investors suggest that there is a fear of a slowdown and their violent reaction to earnings disappointment is noteworthy.

On the inflation side, rising oil prices have led to an acceleration in consumer and producer price inflation. More troubling is the fact that core inflation has also shown a moderate acceleration. Over this expansion CPI inflation has averaged about 2.5 percent, but it is not likely to fall further based on recent inflation figures and the staff forecast. Both of these factors suggest that inflationary expectations are a real concern going forward, so I share some of the reservations about the future that have been expressed here today.

We like to think about this in an historical perspective. In the fall of 1998 the Fed lowered the fed funds rate by 75 basis points in three steps in the wake of a financial crisis. It is likely that the data after that point really reflect the core inflation reacting to the expansion. The Fed has subsequently raised the fed funds rate to 6.5 percent and that may be enough to stem the acceleration of core inflation. The tightening the Fed has done to date has not yet been fully felt in the economy, but higher productivity growth suggests that the equilibrium real rate should be higher. Observed inflation is likely to be higher and the growth of the goods and labor markets is still something to watch. Long-term inflation expectations in our Survey of Professional Forecasters have been holding steady, which is interesting. Respondents still anticipate that the CPI over a ten-year period

will be 2.5 percent. They believe, I guess, that inflation will be held in check by the Federal Reserve.

That is the end of my formal remarks, but I feel some obligation to commend the staff. I can't do so on a relative basis; I don't have that framework. But in an absolute sense I can say that I did enjoy and appreciate the hard work they did in the materials provided to us. Thank you.

CHAIRMAN GREENSPAN. President McTeer.

MR. MCTEER. The economy in the Eleventh District has begun to strengthen modestly in recent months, with employment growth expanding at an annual rate of just over 3 percent. While the national economy has been slowed by the head winds of higher interest rates, higher energy prices, a stronger dollar, and a sputtering stock market, Texas and the rest of the Eleventh District have been steering into cross winds instead. Higher oil and natural gas prices have provided some lift to the District economy at the same time as a strong Mexican economy and strong peso have boosted demand for exports from Texas. While we often think of the United States as a has-been in the energy business, it does remain the largest oil and gas producer in the Western Hemisphere, trailing only Saudi Arabia and the former Soviet Union in oil production and the former Soviet Union in gas production. Texas produces almost a fourth of U.S. oil and about a third of its natural gas. The Texas rig count, about 80 percent of which involves drilling for natural gas, has continued its strong upward trend that began in the spring. At our last board meeting one of our banking directors noted that he had just made his first loan on a rig in many years after having sworn he would never do so again! Low oil inventories and high product prices are helping both oil producers and refiners. But petrochemical companies are caught in a squeeze between record high prices for natural gas feed stocks and excessive inventories stemming from new capacity brought on line in

recent years. This has resulted in a sharp drop in construction of new plants in the Houston/Gulf Coast area.

While the value of heavy construction has declined sharply, residential construction has leveled off at a high plateau. Shortages of some home construction materials seem to have ended, though products requiring major energy inputs such as roofing, cement, and brick, are rising in price. This is being offset by declines in prices of lumber and sheet rock. A sharp slowdown in apartment construction in Dallas and Houston has freed up a sufficient number of skilled construction workers to relieve the shortages that were a problem earlier in the year. Some suburban markets are beginning to show signs of apartment overbuilding, and one month's free rent and other incentives are now being offered. The resurgence in high-tech has helped to boost the Texas economy but disquieting signs are beginning to emerge. Semiconductor sales growth remains strong but has slowed recently. Inventories have risen modestly and large increases in capacity are due to come on line soon. Fears of falling prices and shrinking profit margins have begun to spread through the industry and among its investors. Export demand for Texas products continues to rise sharply. Nearly half of all of Texas exports go to Mexico, so the strong dollar has mattered less for the Eleventh District economy than for the rest of the country. Mexico has been helped by higher oil prices, a strong economy, large capital inflows, and a political situation that has been more stable than many anticipated a few months ago.

Turning to the national economy, I must say that I agree with the broad outline of the Greenbook forecast. Growth will remain healthy and could moderate a bit next year. The modest inflation reprieve we have experienced this year is likely to subside over the next couple of years. I applaud the writers of the Greenbook for raising their estimates of structural productivity growth and potential output expansion to be more in keeping with the economy's experience in recent years.

And I agree with Al Broaddus and others that the Greenbook writers are on a roll, but I don't share Al's worry that productivity growth might be inflationary in the next few months.

As for inflation risks looking forward, I remain encouraged by longer-term productivity trends, which have allowed supply and demand growth to remain well balanced. While the short-term inflation risks remain on the up side, I take encouragement from the continued strength of the dollar, the steadiness of gold prices, and the softness in non-energy commodity prices. My inclination is for monetary policy to remain on hold for the time being.

CHAIRMAN GREENSPAN. President Moskow.

MR. MOSKOW. Thank you, Mr. Chairman. On balance, the economic expansion in the Seventh District continues to show signs of slowing amidst continued tight labor markets and reports of increasing pressure on profit margins from higher costs, particularly for wages, health care benefits, and energy. So far competition has kept many firms from passing these costs along in the form of higher prices to customers, but several contacts felt that we were nearing the point where prices might have to give. The vast majority of our contacts continue to report a slowing in activity, with the list of industries now including retailing, housing, motor vehicles--especially heavy trucks--railcars, steel, aluminum, plastic, cement, wallboard, and paper. One of our directors who serves on several corporate boards noted that there will be more reports from the truck and heavy equipment industries of layoffs and downsizing in addition to those that have already been announced by firms such as Navistar. Another director reported that auto dealers are concerned that it might take even larger incentives to work down their currently high inventory levels.

Having noted the large number of reports of slowing, there are a few caveats I'd like to mention. First, while the trend seems to suggest a slowing, housing markets have been mixed of late, perhaps reflecting lower mortgage rates as Dave Stockton and others have mentioned this



morning. Second, reports continue to suggest that purchases of home-related items like furniture and appliances remain strong. And finally, overall manufacturing in our District appears to have expanded modestly in September. Composite indexes from surveys of purchasing managers in Chicago, Detroit, and Milwaukee all moved back above the 50 percent level--to the 51 to 52 percent range--after all three indexes were below 50 percent in August.

At our last meeting I said we had seen a few signs of possible easing in labor markets, but that does not seem to be the case now. Our Advisory Council on Agriculture, Labor, and Small Business met in September and, like our directors and other business contacts, they spent considerable time discussing the problems of finding and retaining quality workers. For example, our agricultural council members noted that cattlemen are ready to build a new packing plant in Iowa but have been unable to find a community in which to build it in large part due to labor shortages. Small businesses noted that quality-of-life issues such as scholarships for employees' children, time off, fitness centers, and so on were coming to the fore in recruitment. And the labor advisory group reported that employee turnover had increased, so there has been more focus on retention strategies, often in the form of staying bonuses and more training and development.

In terms of an anecdote closer to home, the Chicago Fed recently hosted the System Leadership Conference. Of the three electives offered--one was on technology, one was on media relations, and the third was on retaining and attracting people--by far the most popular among the 60 some odd people from the System who attended the conference was the one on retaining and attracting people.

For the most part our contacts continue to say that gains in productivity enable them to pay higher wages without raising prices. Examples range from redesigned steel mills to Web sites that bring together buyers and sellers of grain within a 100- to 200-mile radius, bypassing the local

grain elevators. Furthermore, council members said that the outlook for productivity gains is good since most firms have only started to tap the possibilities available through new technologies. On the other hand, one small business representative cautioned that continued pressure on employees was beginning to take its toll and he felt that there were some human limits to these increases in productivity.

Turning to the national economy, recent data have tended to confirm the view I mentioned at our last meeting that the U.S. economy is well positioned for a soft landing. I still think the risks are tilted somewhat more toward increased inflation. In particular, we expect the economy to slow to a pace only a little below potential, so labor markets likely will remain tight. Moreover, oil prices now seem more likely to stay at levels that would lead to more spillover into core inflation than we expected earlier this year. And given the deceleration in output growth, productivity gains probably will moderate some. But given the continued pace of capital deepening and the reports we get from high-tech and other firms about the opportunities for further technological advances, any slowing in productivity growth should be relatively modest. In addition, higher energy prices should slow real consumer spending a bit. So, while I believe that the risks remain tilted toward inflation, it will be important for us to be watchful that signs of slowing in the economy do not become excessive.

Mr. Chairman, after all the compliments that the staff has received this morning, I feel that if I don't compliment them they will think that I was disappointed. I do not want to disappoint them, so I would note that I particularly liked the paper on the outlook for oil demand and supply.

CHAIRMAN GREENSPAN. President Jordan.

MR. JORDAN. Thank you, Mr. Chairman. Recently one director started off the go-around at our board meeting by relating what he considered to be an anecdote about conditions in labor markets. But I interpreted it somewhat differently, and I'll come back to that. He said he

overheard another customer in a store where he was shopping complain to the manager about one of the store's employees. And the manager responded, "It is easier to get a new customer than it is to get a new employee!" [Laughter] That raised in my mind the question about appropriate quality adjustments in the services sector, and we could all probably compare anecdotal stories about that.

As for other reports about labor markets, layoffs have been announced by Eaton, Dana, and smaller trucking parts companies. KeyCorp has announced a very major layoff, which is not limited to our District but covers the seven Districts where they operate. Reduced overtime in motor vehicle assembly plants and parts supply firms is becoming a problem. One banker in the northwest part of Ohio, where there are a lot of assembly plants, noted that his customers had worked so much overtime for so long that they had started to view their overtime pay as part of their base wage. That loss of extra overtime income is now being reflected in late payments, delinquencies, and even bankruptcies. We're starting to hear of a few cases, again from our community bank advisory council, of some people just walking in and turning in their keys.

Other directors and advisory council members commented that the higher energy prices seem to have cut into discretionary spending even before winter has arrived in our part of the country. Specifically, it was reported that entertainment spending for sporting events and movie theaters had dropped noticeably in the past two months. In fact, one theater chain announced that it is leaving the mid-Ohio region. A banker said he expects to have to start repossessing powerboats he financed earlier this year. Because of high gas prices a lot of them wound up staying moored in the marinas during the last couple months. He noted, for example, that a 30-foot powerboat will consume 20 to 25 gallons per hour of running time.

Reports about the retail sector indicate considerably more softening in our region than the data suggest for the nation; in fact it was claimed that we did not get a back-to-school sales bounce.

A manufacturer/distributor of packaged pastries said that corporations are cutting their gift budgets, and orders for the fourth quarter are off significantly from a year ago. I'm not sure how to interpret that particular anecdote because a year ago I assume a lot of companies had planned substantial gift budgets for Y2K rewards and recognition. So a year-over-year comparison might not be very reliable. In the retail sector going forward, we were reminded that November last year was very weak, so on a year-over-year basis November should be good. If it is not, that ought to be significant. And there is an extra Saturday and more days between Thanksgiving and Christmas this year, so the retailers are optimistic that they will do better in December-over-December as well.

One of our directors who is affiliated with a national newspaper chain reported that ad revenue has been off sharply in the last couple of months. Another reported, with respect to the retail sector, that in the past 60 days the FTC has sharply increased the fines they impose on retailers for failing to meet promised delivery schedules, which is probably pretty sobering for the online sales sector.

In manufacturing, truck assemblies and parts have been off sharply this year. Also, the very much higher diesel costs--one contact asserted that diesel fuel prices were double what they were but I don't know the timeframe he was using--have greatly increased the operating costs of the trucking companies that are headquartered in the region, some of which operate nationally of course. A characterization of how pervasive the effects may be was the suggestion that partly because of just-in-time inventory, we should start thinking that the United States has put its warehouses on wheels, and rolling warehouses do consume fuel.

Reports from both large and small banks indicate that even in the face of slowing loan demand and a dwindling number of applications in the pipeline, proposals are now being turned

down that would have been accepted a year ago. Bankers also tell us that not only have their interest margins narrowed considerably this year but that they expect margins to be thinner yet next year.

Turning to the national economy, I also thought all of the simulations provided by the staff were useful. I think these kinds of exercises, static as they sometimes are--and I recognize that getting them to be dynamic and interactive is quite difficult--are very useful to conditioning our thinking. If one reflects on what has happened over the last few years--in oil prices, productivity, economic growth, and exchange rates in a couple of notable instances--we might have been better able to think through the appropriate policy had we sensitized ourselves more to the implications of these kinds of events. But looking back at the range of developments over the last few years, my guess is that we would have had a very hard time imagining just how far a number of these things would go. So, looking out at least to 2002 is a very desirable thing for us to do. And I agree with the suggestion that looking out even further would be helpful, even if we don't have a lot of confidence in any one scenario actually playing out or coming close to what actually will happen.

I think back to four or five years ago and the inherited situation at the time, with inflation somewhere in the 2 to 3 percent range depending on which measure one looks at. Had we been able to anticipate the acceleration in productivity growth from about 1 percent or so then to where we have seen it in recent years, in an ideal policy sense I would have preferred to take all of that gain in productivity to lower the rate of inflation. I would have favored a very opportunistic response in order to lock the gains in productivity into a lower inflation trend. We took maybe half of that; it's a very judgmental thing. I think some of the favorable developments in productivity have reduced the trend rate of inflation, but not by as much as I would have liked. Going forward, I would like to be able to take advantage of all of any further increases in productivity growth to lower the inherited rate of inflation, whatever the underlying monetary inflation trend may be.

That does raise a question of strategy, in terms of how we would go about doing that. The baseline forecast in the Greenbook has us starting off from the current position, where the economy is operating somewhat above some notion of our national potential. And as skeptical as I am in today's world about the notion of a potential output either in labor markets or some other way of measuring our capacity, I don't find that approach very convincing. I am just not sure and I wouldn't know how to convince somebody else that we are now operating above capacity. Nevertheless, going forward the baseline forecast has output growing somewhat more slowly than potential growth, so that takes some of the pressure off inflation in the framework that is being used there. But that does raise a question about how we think about the increase in interest rates since June of 1999, particularly the fed funds rate. I still don't find it useful to think in terms of a real fed funds rate. Normally when we talk about real interest rates in a Fisher equation sense, we say that the appropriate horizon for the expected rate of inflation is the duration of the instrument we are talking about--whether it's the 30-year, the 10-year, or whatever. Well, in that sense, I find it troubling to think about a real component in the overnight interbank rate. Instead, I like to think about whether or not the current nominal fed funds rate is calibrated at a level that will ensure that we do not, in an accommodative sense, inject excessive central bank liquidity. Doing so would turn a favorable real side development--productivity growth--into an excess demand situation, thereby creating inflation. I'm not there at this point. I cannot conclude that a fed funds rate of 6-1/2 percent is too low. I would be looking for evidence of these favorable productivity developments showing through in other market measures, especially in financial markets, telling me that the 6-1/2 percent nominal fed funds rate is too low. It's a very tough issue. So at the moment as I look out to 2002 and the baseline forecast, my own very loose judgment would be that the trend rate of inflation is going to be declining in 2002 rather than rising, especially if the forecast is correct about productivity growth.

CHAIRMAN GREENSPAN. Thank you. To avoid the coffee break running into lunch, I suggest we pause here and resume with Tom Hoenig.

[Coffee break]

VICE CHAIRMAN MCDONOUGH. Mr. Chairman, before we resume our discussion, let me mention the Basel capital accord. If all goes well, on our present schedule the Basel Committee will approve the new accord at a meeting to be held in New York in mid-December. I thought it might be useful to take advantage of the December meeting of this Committee to provide an opportunity to brief the Reserve Bank presidents--and your heads of supervision, if you wish to bring them with you--on that subject. We would plan to give a 2 to 2-1/2 hour briefing on what the accord is so that you will be familiar with it before it is made public, as presently scheduled, on the 16th of January. If that is attractive to you, would you let Don Kohn know whether you would prefer to have that session on Monday afternoon, the day before the meeting, or on Tuesday afternoon, the day of the meeting? Considering the length of the briefing and the heaviness of the material, you might want to make it on Monday afternoon, but please inform Don of your preference. Thank you.

CHAIRMAN GREENSPAN. President Hoenig.

MR. HOENIG. Thank you, Mr. Chairman. The Tenth District as a region is continuing to do very well in terms of economic activity, but it is apparent to us that growth is slowing. While overall employment growth in the District is about the same as in the nation, private employment growth is about 1/2 percentage point slower overall. Nonresidential construction reflects the softer conditions in our area. The value of District nonresidential construction has fallen in three of the last four months and remains significantly below previous peaks in the region. Homebuilding also has slowed--not as dramatically perhaps, but it's still a couple of percentage points below year-ago

levels. Manufacturing activity in the District also has moderated. Manufacturing jobs actually fell about 0.3 percent in August and are down about 0.6 percent from a year ago. So, we have seen some slowing there, in part due to higher fuel costs and so forth.

Of course, the area in our District that is suddenly doing well relates to the oil and gas industries, especially natural gas. Like Texas, we produce a lot of natural gas. Our rig count is up about 125 percent and employment in that sector is up rather significantly as well. So we do have activity starting to pick up now as people are becoming more confident that higher oil prices are going to last for a while and are therefore willing to bring some activity back into play.

Retail sales generally have been steady and actually have been fairly strong in the Denver area, as has the whole economy in that region. But, overall, with some slowing we have seen a little loosening of labor market conditions. The unemployment rate remains about the same or a bit higher in different areas of the region as well. Price pressures have also remained steady, despite the fact that some raw materials costs, of course, are going up and have to be dealt with by the manufacturing companies. We haven't seen those higher costs come through at all at the retail level; we've actually heard some talk of easing price pressures there.

Our agricultural sector is still seeing very weak prices. That industry is very much dependent upon government payments and will continue to be so through next year at least, based on the bumper production we see in our region. So we have a strong economy but with some slowing apparent.

At the national level, incoming data have done little to change my outlook on the economy. From the information I have heard here and our own analysis I would say that growth of economic activity is in a longer-term slowing phase. Since the beginning of the year, I think the flat stock market, the higher energy costs in play, and the tighter monetary policy have cooled off



consumer spending. And while investment spending remains very good, our projection is that its growth will be down from the earlier high level, and I think that will play a role as well. As compared to the Greenbook forecast, our projection is for a stepping down of GDP growth toward the 3-1/2 percent area. We also see that occurring without further increases in the fed funds rate from its level today. The risks, of course, are related to energy, which we've talked about. And, yes, energy costs could push overall prices up and that could actually slow the economy. The situation could be complicated if personal income levels fall and the debt burdens in our economy have to be dealt with. So, those are the downside risks.

In essence, while I wouldn't fall on my sword on this, Mr. Chairman, I think the risks are more balanced than they have been. I would feel comfortable saying that with a balanced risk statement, even with these economic projections, because I think the higher rates are still in play. We have seen a slowing expansion and I think that is continuing, which gives us a picture of an economy with more balanced risks in the future. Thank you.

CHAIRMAN GREENSPAN. President Minehan.

MS. MINEHAN. Thank you, Mr. Chairman. As the headline in the Wall Street Journal's New England Economic Focus put it: "Economy slows, but very gently." In fact, it is rather hard to see the slowing. Housing is off a bit but manufacturing and manufactured exports remain strong. Employment growth, net of strike and Census worker noise, has decelerated but it's not much different from the historical norm for the region. Moreover, the size of the New England labor force has leveled off this year after several years of expansion. And the labor force participation rate, at least in Massachusetts, is down from the rather high level of the mid-1990s. Both the slow growth in employment and the very low rate of regional unemployment, which is fully 1-1/3 percentage points below the national rate, probably reflect the same phenomenon, at least in part--that there aren't

many more workers to go around. This ought to be causing wages to rise and to some extent it is. Manufacturers and retailers report 2 to 5 percent base wage increases, though manufacturers are granting much higher wages to employees with sought-after skills. Temporary firms also report higher wages, in the range of 10 to 30 percent above last year, across a wide range of professions. Measures of local inflation continue to reflect a higher rate of increase than in the nation as a whole. In particular, energy costs, both oil and natural gas, rose at better than a 15 percent pace from July 1999 to July 2000. Housing prices as well are up at rates surpassing those of the nation, especially in Massachusetts and New Hampshire, with prices in metro Boston rising at better than 15 percent.

A recent experience provides at least one reflection of this local trend. I host a monthly breakfast with 8 to 10 more or less randomly chosen employees. The discussion centers around the challenges employees face at the Bank and issues they believe are of concern. And it follows whatever direction the employees want to take it. The specifics have varied over time, but this time there was some focus on prices and rising costs. The question, to quote one employee, was: “Why does everyone say inflation is not a problem when the costs of many of the things I care most about--medical care, housing, public transportation, gasoline, heating oil, and education--are all rising rapidly?” Now this may have been a play for a higher wage increase [laughter] but I don’t think it was so specific. It was a generalized concern and the rest of the people in the room seconded the sentiment.

Of course, if we begin to see more of an economic slowing, perhaps some of the pressure will come off. We’ve just completed our usual round of fall bankers’ forums, three programs in Maine, Massachusetts, and Connecticut. A primary question I asked of everyone I talked to was whether or not activity in their area was slowing down. Answers varied, but the largest share of bankers believed that strong growth was continuing and that competition, if anything, was more

intense. Others, however, were seeing some pullback in residential construction and mortgage lending. In sum, the New England region may well be slowing, but the process is gentle to say the least and, depending on the area and industry, perhaps imperceptible.

Turning to the national scene, signs of slowing may be a bit more evident than they are in New England, but the data here are mixed as well. Employment growth is slower, the unemployment rate is up a tick, and housing measures are off their recent highs. But confidence is high. Home buying conditions are better, given recent mortgage trends. Retail sales and other signs of consumption seem to have bounced back in the late summer. The stock market seems to have bought the idea of an economic slowdown, and earnings warnings are more and more common. Corporate leverage is growing. At the same time, credit markets seem to be distinguishing among borrowers, with spreads rising for lower quality credit. Tighter financial conditions are likely a healthy development, however. And profits, while slowing, are doing so from very healthy second-quarter levels.

Looking forward, the Greenbook projects what could only be viewed as nirvana: continued domestic strength, no particular external drag, growing rates of structural productivity, a slight rise in unemployment, but largely quiescent inflation into 2002. But this forecast seems surrounded by more than the usual sense of uncertainty. I think that is reflected in the fact that it took 13 alternative simulations! [Laughter] They were great, but there were a lot of them! The stock market could be weaker or stronger, oil prices higher or lower, the dollar stronger or weaker, and the fiscal stimulus greater. But variations in two factors seem to make the most significant difference in the forecast, in the face of continued relatively strong domestic demand. And these, of course, are the measurements of supply: structural productivity growth and changes in the level of resource utilization consistent with stable inflation over the medium term--that is, the NAIRU.

Forecasting with lower structural productivity growth gets higher inflation. In fact, on the basis of our own forecast in Boston we would argue that there is a possibility at least that demand will not slow as much as is shown in this lower productivity alternative, and inflation could well rise quite a bit in that scenario. On the other hand, with a lower NAIRU, we could get significantly slower inflationary growth.

So what are we to make of all of this uncertainty? Well, to me, common sense suggests that in the face of uncertainty we should be cautious both in what we do and in what we say. Moreover, while there are a lot of factors at play, a few things seem indisputable in the short run. Labor markets are tight. Domestic demand may be slowing but remains robust. And world demand is growing as well, with the inevitable impact on the external sector for us. Rising productivity may well save the day, but it seems unlikely that inflation will go down any time soon and it may well escalate. That, I think, should be our primary concern. Thank you.

CHAIRMAN GREENSPAN. President Stern.

MR. STERN. Thank you, Mr. Chairman. The economy of the Ninth District remains healthy, but I think there are signs of moderating activity. On the positive side, labor markets continue to be very tight. The agricultural sector is doing better than expected, mainly because crops are turning out to be very large. The mining and energy sectors are expanding. And while the picture in construction--both residential and nonresidential--is mixed, overall I think activity in that sector has probably leveled off at a relatively high level. The major area of slowing appears to be in consumer spending, and I'll come back to that in a minute.

As far as the nation is concerned, I think the outlook remains positive. Our projections are for a continuation of significant real growth through 2002, although at a pace somewhat below the Greenbook forecast. And we have inflation stabilizing, albeit at a bit higher rate than our former

forecast. What is new, at least to me, is what I've been hearing anecdotally from retailers and from analysts who follow retailers. They are reporting a significant slowing in consumer spending or at least disappointing sales over the last several months. Now, this information is anecdotal; it's not a scientific sample. There may be a lot of noise in it, but I don't doubt the sincerity of the reports, in the sense that retailers do seem to be greatly disappointed with what they have seen recently. And this is from some fairly significant players in the retail sector. Thank you.

CHAIRMAN GREENSPAN. Vice Chair.

VICE CHAIRMAN MCDONOUGH. Mr. Chairman, the Second District's economy has continued to expand at a moderate pace since my last report, while consumer price inflation has remained subdued in the face of ongoing, though diminishing, cost pressures. After adjusting for the Verizon strike, private sector job growth accelerated noticeably in August to a more than 3 percent annual rate, though the reduction of Census workers appears to have boosted the unemployment rate slightly. Retail sales apparently turned sluggish again in mid-September following a brief pickup early in the month, while retail prices remained virtually flat. Our sources are giving virtually the same story that President Stern just described of a noticeable slowing in retail sales and considerable concern about the holiday season.

While New York City's office market remains extremely tight, residential real estate markets appear to have cooled a bit. Home construction activity has tapered off noticeably in the third quarter, although some of this slowing, especially in northern New Jersey, seems to reflect land and labor constraints. Home prices in New York City are up 10 to 15 percent from a year ago but that represents a slight deceleration, and unit sales continue to decline. Housing markets in upstate New York are mixed but on balance improving. Purchasing managers in the region report continued growth in manufacturing activity, with some diminution in price pressures in September. And local

banks report a continuation of recent trends: weakening loan demand, tightening credit standards, and falling delinquency rates--a banking supervisor's dream.

We think the national economy is slowing just as monetary policy tightening by this Committee intended it to slow. We share the view that energy costs will not cause great damage. My own view is that the forward markets are not accurately reflecting the increased supply that will result from the increased investment taking place, as President Hoenig described for his District. If I am right and therefore energy prices begin to trail off after the winter in the Northern Hemisphere, that should bring energy prices down just about in time to avoid what I think is the considerable risk of the higher energy prices increasing inflation expectations.

Our research indicates that the productivity revolution is continuing and is spreading more broadly to the many users of technology. And, therefore, we agree with the Greenbook's view and perhaps are even more optimistic. I also believe that our economy has now demonstrated for long enough an ability to operate with an unemployment rate at or near 4 percent that we can presume that it is likely to continue to do so for at least a while. Our growth forecast has the economy expanding below potential, which we put at 4-1/2 percent per annum. We think the present stance of monetary policy is just where it should be. As we get into next year I think there will be a question as to whether our assessment of the balance of risks will have to be shifted. But for the present I believe that the formal statement that the balance of risks is toward inflation continues to be the correct one. Thank you.

CHAIRMAN GREENSPAN. President Poole.

MR. POOLE. Mr. Chairman, as I wander around my District, I always ask the question "What's new?" And the answer is not much. It seems to be pretty much steady as she goes. I recently had a trip to Jefferson City, which is obviously not a very big market. The overall

unemployment rate there is around 2 percent and the big issue in that area is a new one for them--the importation of Mexican workers. And I think that example is one of many that we could cite of just how important the strength in our labor market has been for improving the allocation of resources in both the labor and capital markets. We certainly want to do everything we possibly can to keep that going, and that is why maintaining stability on the inflation front is critical.

I do have one issue with President Jordan. Jerry, entertainment spending for sports may be a problem in Cleveland, but it is doing just fine in St. Louis! [Laughter]

My UPS contact was not available this time, but my FedEx contact said that his firm continues to see very strong demand with the exception of heavy freight, which goes by truck. And that observation ties in with the information we have on the auto industry and the trucking industry; we know that sector has slowed a bit. So that report simply confirms what we are aware of from other sources. Overall, the situation is fairly steady according to my FedEx contact. International business continues to be very robust, growing by 15 to 20 percent year over year. And it's strong not only for shipments into the United States but also for outbound shipments. In fact, he said there has been a pickup in U.S. outbound shipments. And UPS business is very robust within foreign economies, particularly in Asia, which would suggest that economic activity abroad is continuing to do very well. FedEx continues to have difficulty attracting entry-level workers; that is a problem we hear about over and over again. And FedEx still sees significant compensation pressures at the professional levels. But company managers are convinced that productivity improvements are covering those costs, so they don't see them passing through to their prices. The exception, of course, is fuel. FedEx has put on fuel surcharges and its customers have accepted the surcharges without complaint. It's just a fact of business, and those added costs are being passed through with no difficulty.

On the national picture, I would simply like to emphasize that the energy price increases really are impacting a lot of people. Of course, the rise in the aggregate CPI over the past 12 months is now running around 3-1/2 percent; that is up a lot. It's driven almost entirely by energy but that still involves a very significant adjustment for people from what they were seeing previously. So I want to emphasize that one shouldn't read energy out of the CPI and say everything is just fine, as some commentators seem to do--though I don't think that's true of those around this table. I believe that we really do have to pay attention to the aggregate CPI when the increase has been as long-standing and as persistent as this increase is becoming now.

CHAIRMAN GREENSPAN. Governor Gramlich.

MR. GRAMLICH. Thank you, Mr. Chairman. Using what I'll call a level test, I think that overall monetary policy is roughly in balance. With real interest rates in the neighborhood of 4 percent, minimal term premiums, and a core inflation rate of about 2 percent, the equilibrium funds rate should be in the neighborhood of 6 percent. Adding in a slight premium to cover the balance of risks leads to the present funds rate of 6-1/2 percent, a rate that seems about right for today's conditions. Perhaps the biggest question is whether we should eliminate our upward bias. One could argue for that by noting that the prospective growth of final demand really has slowed quite sharply from earlier in the year. At this rate, it may not be too long before I join Tom Hoenig in thinking that the risks have become evenly balanced. Yet at this point I think that such a change in our posture is still premature. I still believe that the fundamental risks of inflation are on the up side and I would like to retain our present policy stance at least for a while.

I have reached that conclusion for five reasons. Let me try to give them quickly. One is prudence. In this day when fiscal policymakers seem to be throwing prudence to the wind, somebody has to stress limits and the importance of stable prices. That may as well be us. The



second is NAIRU. I have often mentioned my suspicion that NAIRU could be as low as the 4 percent featured in the Greenbook simulation. I do like the outcome of that simulation and I think it is at least somewhat likely. But a suspicion that NAIRU is low is not the same as proof, and the better part of valor says that we should move cautiously before effectively rejecting the standard estimate of NAIRU. Third is investment. There is still a very strong investment boom in progress. Historically when investment has been this strong for this long, inflation has ensued. I suspect it may not this time around for reasons we have often discussed, but again suspicion is not the same as proof. Fourth is productivity. To the extent that wages have lagged the productivity change, there has been downward pressure on unit labor costs, upward pressure on the dollar, and downward pressure on import prices. But as wages catch up to the productivity increase--an event that seems likely at some point--many of the inflation-reducing benefits of the productivity shock could erode. The last reason is energy. We've talked about that plenty and I won't elaborate, but it's certainly an upside risk.

In all these ways I think the fundamental risks of inflation are still on the up side. In the long run I believe our operational answer to this set of circumstances is forward-looking, flexible, inflation targeting, a type of approach I've tried to describe in previous meetings. In the shorter run, in terms of what we should do today, I have a shorter answer: no change.

CHAIRMAN GREENSPAN. Governor Ferguson.

MR. FERGUSON. Thank you, Mr. Chairman. Like others, my read of the incoming data is that they do point mainly to a continued moderation in economic growth to a pace that I believe is below the economy's potential. In addition to the economic data that have come in, I think the more forward-looking indicators of real activity also support the notion of some slowing in train. The purchasing managers' report for new orders is the most recent example in that category. Also, as I

believe Peter Fisher was suggesting, the financial markets, though not unambiguously, certainly do seem to be consistent with a slowing. They obviously have some concern about its pace, but I think they are suggesting a slowing is in train.

Now having said that, the Greenbook and the economic data point to a number of risks. One we've already talked about, which is oil. Like Ned Gramlich, I will restrain myself on that subject except to observe that the one thing we haven't talked about is the great risk of an upside price surprise that comes from either political instability or willful misbehavior on the part of some of the producers of oil. I think that is still a possibility. Though it doesn't appear to be the most likely outcome, it's one we do have to be aware of.

The second risk that I see in the forecast is that the Greenbook assumes that investment in productivity-enhancing capital goods will continue unabated even as credit conditions tighten and the pace of growth slows. Given the role that the supply side of the economy has played for the last several years and the observation that no economy seems to have managed to sustain productivity increases in the high single digits for several years, this is to me a very important assumption. It rests on the view that a large chunk of investment spending continues to be done by established firms with relatively strong credit ratings who are likely to emerge from this mild cyclical slowing in very good shape. While it is true that most capital spending, at least among the largest companies, is done by investment grade firms, about a quarter of it is done by firms that are not investment grade. So I see some potential risks there that we should be mindful of. I would also observe that we've seen some negative earnings surprises from some of the major participants in the new economy, including Cisco Systems which builds routers that are the backbone for the Internet, Apple Computer, and Intel. That goes back to the semiconductor story. None of those stories is yet enough to say that this new economy, productivity-enhancing supply shock we've had is over. But I

think we do have to be mindful that there is at least a risk that the pace of investment in this expansion may slow, which would lead to unfortunate outcomes with respect to productivity, employment, and also inflation--a combination of developments that would be challenging for us.

In a more positive sense of risk, I was glad to see that the staff included an alternative simulation with a NAIRU at 4 percent. Like Ned Gramlich, I've certainly toyed with the possibility of a low NAIRU in that area. In the time I've been here at the Board we've had unemployment running somewhere between 4.3 and 3.9 percent and inflation has been quite quiescent, partially for special factors. Nevertheless, it does leave open the possibility that in fact the so-called NAIRU is down at that level. I find it instructive that the staff at least seems to think the probability of a NAIRU at that lower level is about 20 percent, more or less. Again, I think it's too early to presume that's the answer and too early to base policy on it. But it's interesting that we can even have a discussion where the possibility of NAIRU at around 4 to 4-1/4 percent is definitely on the table.

When I put all of these certainties and uncertainties together, it seems to me as though the best policy stance for now is steady as she goes. A slowing does seem to be well under way, not requiring any further action. I do think that the balance of risk statement should continue to be focused on inflation. We have tight labor markets. There is some uncertainty about oil. The fiscal policy situation is a little uncertain. And if it turns out that the economy can maintain noninflationary growth at an unemployment rate as low as today's, then a gradual policy will allow us to discover that truth over time as well. So, I believe we should stand pat as we are and just continue to monitor incoming data as we have been.

CHAIRMAN GREENSPAN. Governor Meyer.

MR. MEYER. Thank you, Mr. Chairman. I will focus my remarks this morning on what I view as the three key themes in the Greenbook forecast. While David Stockton has already

emphasized the considerable uncertainty that attaches to each of them, these themes are consistent with the qualitative aspects of my own view of the outlook. First, the economy appears to be making a transition from above-trend to below-trend growth. Second, the balance of risks is nevertheless toward rising core inflation. And this risk not only persists throughout the forecast period; it will likely remain for a considerable period of time thereafter. Third, if oil prices decline over the next two years, consistent with expectations in futures prices, overall consumer price inflation will likely decline next year and the upward drift in core inflation will be significantly restrained over the forecast period.

The balance of risks toward higher inflation, even if growth remains modestly below trend, reflects an assessment that the prevailing unemployment rate is below the short-run NAIRU and the prospect that the short-run NAIRU will rise as productivity growth stabilizes, or at least rise at a slower rate than over the last several years. The upward pressure on core inflation in the Greenbook comes from the gap between the prevailing unemployment rate and the staff's 4-3/4 percent estimate of the short-run NAIRU. The staff projects no increase in the short-run NAIRU over the forecast period. And a subsequent convergence toward the long-run NAIRU would presumably be a source of continuing inflation pressure beyond the forecast period.

There have been already many well deserved compliments to the authors of the Greenbook, but I can't resist noting that no member of this Committee has a greater appreciation for their careful analysis of the unemployment rate relative to the short-run NAIRU and the long-run NAIRU than I do. Of course, the staff took no chances in this Greenbook. With all the alternative simulations, including the one with a 4 percent long-run NAIRU, there was something for everybody. And that's a good thing, I'm sure.

The first two themes in the Greenbook story, below-trend growth and rising core inflation, are features of what I have called a “reverse soft landing.” There is a transition to growth at potential from an initial point above potential via a period of below-trend growth. During the transition demand pressure results in an upward trend for core inflation unless other supply shocks intervene. So while many outside and some inside the FOMC will regret a slowdown to below-trend growth, I continue to believe that such a reverse soft landing is the most benign outcome possible, given my assessment of the relationship between actual and potential output today.

The earlier period of above-trend growth and declining core inflation and the projection of below-trend growth and rising inflation over the forecast period are, in my view, two sides of the economy's adjustment to the acceleration in productivity growth. Initially, an acceleration in productivity yields a powerful disinflationary impetus. It may allow a decline in both unemployment and inflation. That is the bright side of the adjustment to the acceleration of productivity that we have enjoyed for the last four or five years. It has offered policymakers a choice among only favorable outcomes: temporarily lower unemployment, lower inflation, or some combination. Now the time may have arrived when we have to face the other side of that adjustment. When the temporary disinflationary impetus of the productivity gains dissipates, the demand pressure at the prevailing unemployment rate will begin to show through to higher unit labor costs and inflation unless, of course, productivity growth continues to rise aggressively enough to postpone that adjustment.

On the other side of the adjustment process we face a less favorable set of choices--some combination of below-trend growth and rising core inflation, as in the Greenbook, until output is realigned with potential. The closer growth is to potential during this part of the adjustment, the sharper will be the cumulative rebound in inflation. The staff forecast does, nevertheless, offer a

very benign outcome over the next 2-1/2 years. The key assumptions that contribute to that benign outcome are that oil prices decline over most of the forecast period and that a tighter monetary policy prevents a premature rebound in growth to or beyond trend as long as there is upward pressure on core inflation. The result is steady growth at a rate more than 50 percent higher than the average of the 20 plus years prior to the mid-1990s, with an average unemployment rate still close to the lowest over the last 30 years and still modest rates of overall inflation. This is not as good as the experience during the bright side of the adjustment process, but it would still be a pretty impressive next chapter in this expansion.

While I appreciate the uncertainty about the estimate of both the short-run and the long-run NAIRU, the Greenbook forecast and analysis highlights the risks of higher inflation that may still remain, even if the economy slips into an extended period of below-trend growth.

CHAIRMAN GREENSPAN. Governor Kelley.

MR. KELLEY. Thank you, Mr. Chairman. Over time it has seemed to me that there is a certain recurring rhythm to the work of this Committee. There are times when we are faced with a need to reassess the appropriate fundamental course of policy and other times when we are focused on questions of how much impetus may or may not be needed to move further along an established path. And then there are occasions when an intermediate-term objective appears to be being met, which raises a new set of issues and puts us into a period when it is desirable to wait and see what incoming data tell us about evolving conditions. We may be in such a wait-and-see period today. We now appear to be in an economic slowdown, which most if not all of us have been seeking. And new questions present themselves: How long-lasting and how deep will this slowdown prove to be? How will the course of inflation react? Will inflation slow with the economy, continue to creep upward regardless, or perhaps accelerate in response to conditions previously in place? Many

scenarios have a certain plausibility, but I believe the Greenbook baseline is as good a bet as one can make today, and it calls for a wait-and-see approach for now. I believe that represents the rhythm of the day and, therefore, that the present policy stance remains appropriate.

CHAIRMAN GREENSPAN. Thank you very much. Don Kohn.

MR. KOHN. Mr. Chairman, at its last two meetings, the Committee kept the stance of policy unchanged, but expressed concern that the risks going forward were tilted toward higher inflation. The information you've received since August would seem to support a judgment that those risks remain contained, and that policy can again be left on hold. As a number of you remarked, incoming data have tended to confirm that the growth of aggregate demand has slowed to, or even a bit below, the rate of growth of the economy's potential. Moreover, developments in financial markets have been consistent with a projection of relatively moderate growth going forward. While long-term rates have declined on net since May, the full effects of the leveling out of equity prices this year have yet to be felt, and the dollar has continued to appreciate. Increasing caution by lenders, especially toward marginal credits, should reinforce the restraining effects of the rise in interest rates over the last 18 months. And in part because equity investors appear to have become more cautious as well, stock prices have been held down even as long-term interest rates have backed off. Growth of M2 has picked up very recently, but that followed two months of very sluggish expansion and on average in the third quarter M2 decelerated noticeably from earlier in the year. In credit markets, lower long-term interest rates have encouraged a shift in financing out on the yield curve, but private debt growth appears to have slowed appreciably in the third quarter.

There has been less news over the intermeeting period about costs and prices than about economic activity, but the information becoming available in this area has not suggested that the prevailing degree of tightness in labor markets is a greater problem than the Committee perceived it to be in August. Core PCE inflation has ticked higher over the last year, but some of that small price acceleration likely represents the passthrough effects of higher energy prices. And longer-term inflation expectations, whether measured in securities markets or through surveys, have not deteriorated. In addition, high and volatile oil prices have added an element of uncertainty to the outlook for aggregate demand, potential supply, and underlying inflation--with possibly conflicting implications for the stance of policy. Under the circumstances, there would seem little to be lost and potentially much to be gained by keeping policy unchanged at this meeting and awaiting clearer signals about the evolution of economic activity and prices.

Indeed, the Committee might see the developments over the last intermeeting period as suggesting that the chances of inflation moving higher have receded—perhaps by enough to bring the risks to achieving your macroeconomic objectives into balance for the foreseeable future. The financial markets adopted a view that the risks were balanced some time ago. Indeed, more recently, market participants would appear to be placing greater odds that the Committee will need to lower interest rates to cushion a softening in activity than that it will be required to raise rates to contain emerging inflation pressures.

An important reason for the Committee's perception that inflation threatened to intensify has been a concern that the growth of demand might outpace that of potential supply, further tightening already strained labor markets. The moderation in growth that already has occurred, however, along with the additional restraint still in the pipeline from previous tightenings, soggy equity markets, and a stronger dollar, might make you now much more confident that aggregate demand will grow no faster than potential output. In the staff forecast, at an unchanged federal funds rate over the next year, pressures on resources gradually abate. Decreases in long-term interest rates since this spring, along with profits warnings and equity price declines of late, tend to support the judgment expressed in the August Greenbook that to a considerable extent faster productivity growth had already been built into interest rates and expected profits. In that case, the economy would not be about to experience another round of the demand-augmenting effects of greater growth in potential supply. If the Committee therefore saw unemployment rates at or a little over 4 percent as likely to persist, and you also saw such rates as reasonably likely to be consistent for some time with stable inflation, you might now judge the risks to achieving your objectives as balanced.

However, even if the Committee were fairly confident that pressures on resources would not intensify, you might still find that the balance of risks remained weighted toward higher inflation. Such a view is implied by the staff forecast, in which even with a gradual uptrend in the unemployment rate and further increases in productivity growth, labor markets are tighter than can be sustained without inflation picking up. While the Committee might not be prepared to sign on to this assessment of labor market disequilibrium, you could still view the inflation risks around unemployment rates in the low 4s as unbalanced. Giving some weight to history might suggest that if NAIRU is not in this neighborhood, it is more likely to be above than below it, especially once increases in productivity growth begin to abate. Some measures of core inflation have picked up more than the PCE index as unemployment rates have stayed around 4 percent over the last year, perhaps reinforcing a sense of unbalanced risks around prevailing levels of labor resource utilization. And with levels of core inflation now possibly near, or even beyond, the limit that the Committee might find acceptable in the very long run, you might see any



further acceleration of prices as adverse to economic performance over time, and a situation requiring an especially robust reaction.

Energy price developments also might contribute to a perception that risks remain skewed toward higher inflation. Staff models tend to show that oil price shocks push both inflation and output away from long-run desirable levels. Over recent quarters, any tendency for higher oil prices to damp demand has not reduced actual output below potential, however, but rather has helped to bring about better balance between the growth of demand and potential supply. In the context of still robust final demand and high resource utilization, any deterioration in inflation expectations as a consequence of persistently higher energy prices would be troublesome. And in the event inflation expectations rise, cushioning the effects of higher oil prices on labor and product markets by holding nominal rates unchanged and allowing real rates to fall would risk setting in motion an upward trend to the inflation rate, rather than just an adjustment in the price level. The uncomfortable reality is that a rise in oil prices requires a decline in domestic real income to validate the transfer of purchasing power abroad and decrease in economic efficiency. Some added slack in labor markets may be necessary to prevent worker attempts to protect the purchasing power of their wages from resulting in an acceleration of costs and prices.

Keeping policy unchanged, whatever the bias in your announcement, leaves open the question of your strategy going forward. The FOMC could find it difficult to tighten in a timely manner in the event that the staff is right that underlying inflation is on a very gradual uptrend with output growth at or below the growth of potential supply. Operating for a time with a prediction that inflation at a later date will be above your desired level is not necessarily a problem, provided you act at some point to forestall or reverse that development. Uncertainty about key interactions in the economy is a good reason to wait. However, with little conviction on NAIRU and its empirical relationship to productivity acceleration over the intermediate and longer runs, it becomes hard, if not impossible, to act preemptively to prevent inflation from rising if indeed labor resources turn out to be stretched too tight. At the same time, you need to be careful not to fall into the trap of accepting a gradual updrift in inflation because the few tenths each year could be noise and not unambiguous evidence that the economy is operating at too high a level, and so do not seem to pose a clear danger to satisfactory economic performance. Those few tenths will cumulate over time.

In the past, the Committee has tended to wait for convincing evidence that policy tightening was needed and then to act forcefully, but still well before actual inflation intensified. This was the pattern in 1993-1994 and again over the last year and a half. This strategy has carried with it a number of potential pitfalls. The Committee could wait too long and hence need to do considerably more tightening than otherwise, leading to greater variations in output,

employment, and inflation than desirable. On the other end, aggressive policy actions once you begin to tighten could easily lead to overshooting. Despite these pitfalls, the strategy has been successful for a number of reasons. Foremost, as in 1994 and again most recently, the Committee has acted at an early stage of the inflation process, in that it leaned against unsustainable growth in demand long before a pickup in inflation got going. It has also been helpful that markets have been able to anticipate your actions, so the exact timing of your tightenings was not important. Finally, you have been flexible enough to stop tightening and even to roll back some of the actions promptly when overshooting looked likely.

The current situation, if inflation pressures do intensify gradually, may not be as well suited to the strategy of waiting for great conviction and then moving forcefully. The risks you are now looking at are further along the transmission channel to inflation than the demand questions you faced before. Given the uncertainties, a number of you have remarked that in the current situation you will need to be more reactive than anticipatory when it comes to judgments about the sustainability of a particular level of unemployment. Finally, you may not get the anticipatory behavior from markets you've benefited from in the past. At this point, markets do not see the risk you see. If inflation pressures intensify gradually, markets may take longer than you would be comfortable with to recognize the problem and your need to address it.

The difficulties of making stabilizing monetary policy in the presence of supply-side uncertainties once growth rate risk abates do not lend themselves to ready solutions. Some economic theories indicate you should take your best guess on some of these key values and act on those guesses, but this may not be appealing when the interactions are complex and the best guesses so diffuse. You may still be able to be preemptive, albeit to a much lesser degree, for example by paying close attention to business cost structures for hints that price pressures are about to emerge. And you may end up having to be more willing to surprise financial markets if you see pressures building and markets fail to heed your warnings. Finally, you may need to care about the level of inflation as well as its change. The evidence that a few tenths increase in inflation is part of a continuing trend may not need to be quite as convincing when those tenths take core PCE inflation from 2 to 2-1/4 percent as when they raised the same measure from 1-1/2 to 1-3/4 percent.

CHAIRMAN GREENSPAN. Questions for Don? If not, considering the late hour I'll try either to say less or to speak faster or some combination of the two!

The members' response to the latest Greenbook suggests to me that everybody likes the alternative simulations presented there by the staff. The trouble is that each simulation gives us a

different forecast! The staff has covered the full spectrum of forces shaping the current outlook and indeed has given us, I think, a fairly incisive view of the true ranges of probabilities in a situation where something very unusual is happening. I'm not talking about the high-tech developments, which we have been discussing for quite a long period of time. We don't know much more than we did earlier about those developments, but at least we think we are beginning to understand them. The latest Greenbook has taken the oil/energy problem and has superimposed it on the high-tech uncertainties. And, as a number of you have said, what we infer from that is that choosing the appropriate forecast is clearly quite problematic.

So far as I can judge, there is nothing terribly significant going on in the economy excluding energy. The productivity numbers still seem to be accelerating modestly, but the levels of actual output per hour have moved into a range where it's just not credible that they can continue to rise and ultimately reflect still higher structural productivity in the areas where we're already seeing large increases in current output per hour, even cyclically adjusted. So one must be skeptical about those productivity numbers in the sense that it's startling to see their second derivative remain positive after having been positive for so long. Moreover, that second derivative has been a larger number than one would ordinarily expect. Part of the problem is the flattening out of the statistical discrepancy, which has taken the official GDP-based productivity data to a new high rate of growth whereas the income-based productivity estimates, specifically for nonfinancial corporations, have not shown the fairly pronounced changes that have occurred in the official data in the last year.

The long-term forecasts of earnings by security analysts, as I have said before, are not an indication of the true forecast but largely reflect what corporate America thinks about its future. There is just no slowing in those forecasts for the longer term both for high-tech and for non high-tech firms, despite the fact that forecasts for the short term have turned quite disappointing and

indeed have fostered some really bizarre stock price movements among some of the larger and fairly well established high-tech firms. The implication is that these companies are still finding projects in which to invest where they anticipate significant rates of return over the longer term. One does not see any significant diminution of that earnings outlook phenomenon, despite the fact that productivity increases have risen to fairly elevated levels.

The one thing I find somewhat of a concern here is that we are not getting in any of these views about the outlook for earnings the type of impact that substantial energy price changes clearly must be having. Don Kohn reflected on the increasing costs that clearly are there for business firms despite the fact that the intensity of energy usage is half what it was thirty years ago. So we clearly are not looking at the type of environment that we had in the past. But remember that a goodly part of that very significant decline in energy inputs relative to real GDP had occurred by 1985 and yet there is no doubt that the Gulf War did have a significant impact on economic activity, basically, as best we can judge, through its effects on consumer confidence. The comments around this table indicate that consumer confidence is holding up very well, although the revision of the University of Michigan numbers for September suggests a fairly sharp deterioration in attitudes in the second half of the month. I don't know whether or not this is an aberration, but it's the first sign that any of our measures of consumer confidence have run into trouble. If in fact that is what is happening, then the oil price-energy price phenomenon is really beginning to have an impact. And indeed we are beginning to see some economic effects. If we separate high-tech from low-tech in the orders figures, which is how we tend to look at these numbers, lo and behold low-tech is doing very well. But it is doing very well because the surge in electric power capacity problems has led to some very substantial increases in orders for engines and turbines and related backlogs that are having an impact in the economy.

In any event, I think the crucial problem here rests fundamentally with oil and our interpretation of its role. We have seen over the years that even though we tend to refer to oil as part of the old economy, it really is not. If we look at the extraordinary technological advances that have occurred in the industry, they really are quite awesome. The capability of using seismic exploration to find oil has led to a major reduction in the cost of finding oil in any given oil extraction environment. The ratio of dry holes to exploratory wells has come down dramatically. The development of various deep and horizontal drilling technologies has lowered the real cost of extracting oil in a quite significant way. If one merely looked at the underlying technologies and asked what was happening to the long-term marginal cost of finding new oil, clearly one would conclude that it has been coming down fairly dramatically as indeed it has outside the OPEC area. In fact, the ability of other producers to offset OPEC has been quite impressive until very recently. Actually, until fairly recently OPEC production was remarkably flat for many years, obviously reflecting a slowdown in world demand associated with the reduction in the intensity of oil usage but also, surprisingly, a significant increase in the production of non-OPEC oil.

The difficulty that the non-OPEC oil countries are having is that the environment in which they have to seek and drill for oil is becoming increasingly less hospitable. We may be getting lower costs for any given type of oil exploration and drilling environment, but if the environment is worsening one would expect, and indeed one sees, that a significant part of those cost improvements is being countermanded, so to speak. Nonetheless, until very recently the evidence that the long-term equilibrium price of oil was declining was really quite impressive. We have data on this, which is separate from the anecdotal reports of the oil companies. Essentially the data show that the price trend in the futures market for oil, specifically the long-term or 3- to 6-year futures prices of West Texas Intermediate, was edging downward until very recently. Two years ago, for example, prices in

the futures markets would start at \$12 a barrel and rise to \$17 where they would flatten out for long-term contracts. When spot prices rose, futures prices would go quite a bit higher for shorter-term contracts and then come down in “backwardation,” flattening out at \$17 or \$18 a barrel. This behavior suggested that, to the extent that the futures markets reflect the true long-term marginal equilibrium price, the latter was somewhere in the area of \$17 or \$18 a barrel, West Texas Intermediate equivalent.

Because the oil industry has another very important characteristic, in part I might add reflecting the advanced technology that it employs, it runs on very low usable inventories. Indeed, the latter might be described as close to fumes but not quite. Ordinarily over the last decade or so, usable stocks of oil have supplied about 13 days of demand, down from earlier periods. And because there is only a 13-day supply in the world market, we have an extraordinarily sensitive oil price structure. Indeed, what we have seen historically is that oil prices are extremely volatile and they are volatile in a very interesting way. They spike. We have had significant spikes all along the way and what this suggests is a very high inelasticity of response to changing demand.

As a consequence, when OPEC was able in the spring of 1998 to bring its production level down by a fairly pronounced amount--they brought it down about 3 million barrels a day, which is a huge number--that effectively began to open up a significant gap between demand, which was rising gradually, and supply. The 15-day supply of usable stock available at that time started to evaporate very rapidly. That stock finally got down to a 10-day supply and the spot price of crude, as you know, rose at a very rapid pace. The effect was a very dramatic “backwardation” as they say in the markets, namely spot prices rose to \$37 per barrel prior to their very recent decline. At the same time, the equilibrium price of oil probably did not change very much even though longer-term futures added \$2 or \$3 per barrel, largely I suspect because of uncertainties about the potential

degree of excess world capacity over the long term. In this situation, it was very difficult to build inventories. With the very substantial backwardation that occurred why would a refiner buy crude at \$37 a barrel and as it was being refined find out two months later that it was worth \$3 or \$4 a barrel less? So inventories were not being built up anywhere in the system, and indeed they were kept at extremely low levels, thereby exaggerating the price acceleration. Finally, OPEC was induced to raise their production quite significantly. We did see the pickup in inventories that one would expect. When the gap between supply and demand closed, the decline in inventories initially slowed, and stocks then started to turn up.

There is an interesting oddity in the recent data. Domestic demand for oil products is accelerating and production is going up very dramatically. This raises the interesting question as to whether or not the domestic shipment numbers reflect what is actually happening to demand. Remember, those numbers cover shipments from refineries and the primary inventory complex and do not reflect the buildup in inventories either at retail gasoline service stations or more importantly at homes in the form of heating oil. All this is very suggestive of the probability that underlying demand is not accelerating but that inventories, because they cannot be held at the refinery level without potential loss, are beginning to increase at the tertiary level. Indeed, if we look at the United States, and this is true elsewhere, the demand for distillate fuel has risen exceptionally rapidly in the last two or three months. In fact, in comparison with a year ago, it probably is up the equivalent of perhaps 300,000 or 400,000 barrels above the normal daily average in the United States. What this suggests is that there has been a massive run by the American public to buy home heating oil. They are not using it yet. It is not winter! So where is it going? Inventories are going up in all the secondary storage areas. So, the presumption that there is a home heating oil shortage is something that only people who don't watch the markets believe. This has been the most publicized shortage in

recent memory, which is a guarantee that it is not happening! And indeed the presumed shortage raises some very interesting questions about the outlook for oil because, seasonally adjusted, we are seeing a very dramatic increase in aggregate world inventory accumulation currently. Without seasonal adjustment, one ordinarily would expect world inventories to contract in the fourth quarter, and the evidence at this point is that they are not. OPEC production has gone up over 3 million barrels a day, possibly even more than that, and is now much higher than its level before the OPEC-engineered price acceleration.

So part of the answer to the question of what is holding oil prices where they are is that capacity is very restrained. There is very little in the way of surplus capacity in the system. Leaving the inventory issue aside, there is the risk of a spike that is creating major speculative buying in the crude market and in the product markets. And, as was mentioned before, there is a very serious concern that Iraq, which is producing 2-1/2 to 3 million barrels a day, may suddenly decide that they are having a production problem. If we take a chunk of crude that big out of the world system, that could do wonders to oil prices because outside of Iraq there is just a little more than one million barrels a day left in available world production capacity. If there are any breakdowns anywhere they could create some serious problems. But what is happening here is that levels of production are high because the demand for inventories has surged, as reflected in both the published primary data and in the unpublished tertiary data. The consequence has to be a real inventory bloat. It is unclear how all this is going to work out because the inventory problem could disappear if Saddam decides that he has enough cash and doesn't need any more money from oil sales, or we could have a variety of breakdowns.

In sum, it is very difficult to forecast the price of oil. The one thing we are pretty sure of, if history is any guide, is that if we get another spike it will reverse itself provided that we can get



through this winter, get through the threats coming from Iraq, and hopefully the Middle East does not go berserk. There are a lot of uncertainties in the outlook for oil that, depending on their resolution, can fundamentally alter the overall course of the economy. Those uncertainties have to be changing the structure of our capital stock, making it somewhat less efficient. They must be creating negatives that we really don't recognize and don't get picked up or have never been picked up by our econometric models. Simulate the 1973 experience, the 1979 experience, the Gulf War experience, and I will bet that your results will not produce the recessions that actually occurred. What this suggests is an asymmetric impact of the oil and energy price effect. Remember, natural gas is a big problem. Electric power is a big problem. So this is not a situation akin to the old environment where coal was able to keep the cost of electric power down. We have a whole series of problems here. We may very readily agree that the most likely forecast is the one right in the middle of the Greenbook. It tells us that everything will be just fine. But these markets are really very tricky and the presumption that everything is going to work out well is still, in my judgment, a hope.

As a consequence, as far as policy is concerned the general consensus around the table, and in my judgment the right one, is to do nothing today. But the risks clearly remain on the up side as far as inflation is concerned largely because of the energy difficulties that we have discussed. Even though I recognize all the arguments that were made with regard to productivity, the NAIRU, and the assumption of accelerating unit labor costs, they clearly reflect risks that suggest we have to be fairly vigilant in our assessment of developments bearing on the intermediate economic outlook.

Vice Chair.

VICE CHAIRMAN MCDONOUGH. I concur with your recommendation, Mr. Chairman, to keep the fed funds at its current level and to retain the statement that the balance of risks is on the inflation side.

CHAIRMAN GREENSPAN. Tom Hoenig.

MR. HOENIG. I can accept your recommendation, Mr. Chairman, although I think we could go to a more balanced stance. But we can wait.

CHAIRMAN GREENSPAN. President Guynn.

MR. GUYNN. I support your recommendation, Mr. Chairman. The argument has been well made.

CHAIRMAN GREENSPAN. President Minehan.

MS. MINEHAN. I support your recommendation, Mr. Chairman.

CHAIRMAN GREENSPAN. President Broaddus.

MR. BROADDUS. I support your recommendation, Mr. Chairman.

CHAIRMAN GREENSPAN. President Poole.

MR. POOLE. Mr. Chairman, I support the recommendation. I would like to point out, though, that if we were using the old directive language I think there would be a case for symmetry. In my view there is about equal probability that the next move would be up or down. But the danger with trying to read that interpretation into the current language is that the market would interpret a balanced risk statement--if we were to go to that--as saying that we believe the inflation picture has become more benign, which I do not think is the case. I think it is also worth emphasizing that historically oil shocks have had particular events behind them. We had the Suez Canal closure in 1956. We had the coalescence of OPEC in 1973. The Shah of Iran was deposed in 1979 and there was the Gulf War in 1990-91. The current case does not have any incident of that type.

CHAIRMAN GREENSPAN. Yes it does.

MR. POOLE. Well, I don't think it is of the same magnitude.

CHAIRMAN GREENSPAN. It had the same effect of cutting OPEC production by a fairly significant amount.

MR. POOLE. Well, let me comment about that. I think we have always understood that monopolies make prices high. They do not make prices rise. And there is no question that in the face of strong demand it is in the interest of a monopoly to exploit a strong demand to raise prices.

CHAIRMAN GREENSPAN. Demand was not strong. The data indicating strengthening demand are very recent. It was not strong in 1998.

MR. POOLE. No, what I'm saying is that oil prices bottomed out in 1998 and there has been a very strong worldwide recovery in the last four to six quarters. Worldwide there has been an economic boom.

CHAIRMAN GREENSPAN. Yes, but we don't know to what extent the domestic demand numbers, which have unquestionably taken off, reflect consumption or tertiary inventory accumulation.

MR. POOLE. I agree that there is an inventory cycle that is very hard to understand. By inventories I mean the inventories that are invisible and that we don't have any direct data on. I have no quarrel with that. But I am saying that I don't think it's an accident that we have rising oil prices in the context of a worldwide economic boom. That is the only point I wanted to make regarding my view on this matter.

CHAIRMAN GREENSPAN. If Saddam does something, you'll change your mind?

MR. POOLE. That will add to our woes, no question about it.

CHAIRMAN GREENSPAN. Indeed! President Moskow.

MR. MOSKOW. I agree with your recommendation, Mr. Chairman.

CHAIRMAN GREENSPAN. Governor Kelley.

MR. KELLEY. I agree with your recommendation, Mr. Chairman.

CHAIRMAN GREENSPAN. Governor Ferguson.

MR. FERGUSON. I support your recommendation, Mr. Chairman. I'd also like to make one comment. I think Don Kohn did us a great service by getting us focused on this creeping inflation issue. I'm not quite sure what the answer is but I think we will come back to it. I heard Jerry Jordan also raise some concern about this issue.

CHAIRMAN GREENSPAN. President Jordan.

MR. JORDAN. I support the recommendation.

CHAIRMAN GREENSPAN. President Santomero.

MR. SANTOMERO. I support the recommendation.

CHAIRMAN GREENSPAN. Governor Gramlich.

MR. GRAMLICH. I support the recommendation.

CHAIRMAN GREENSPAN. Governor Meyer.

MR. MEYER. I support the recommendation.

CHAIRMAN GREENSPAN. President McTeer.

MR. MCTEER. I agree.

CHAIRMAN GREENSPAN. President Parry.

MR. PARRY. I support your recommendation.

CHAIRMAN GREENSPAN. President Stern.

MR. STERN. I do, too! [Laughter]

MR. KOHN. It will be hard to write the minutes!

CHAIRMAN GREENSPAN. Will you read the appropriate language?

MR. GILLUM. Yes, Mr. Chairman. I will be reading from page 11 of the Bluebook. The directive wording is: “The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output. To further its long-run objectives, the Committee in the immediate future seeks conditions in reserve markets consistent with maintaining the federal funds rate at an average of around 6-1/2 percent.”

Now, the balance-of-risks sentence: “Against the background of its long-run goals of price stability and sustainable economic growth and of the information currently available, the Committee believes that the risks are weighted mainly toward conditions that may generate heightened inflation pressures in the foreseeable future.”

CHAIRMAN GREENSPAN. Call the roll.

MR. GILLUM.

Chairman Greenspan	Yes
Vice Chairman McDonough	Yes
President Broadus	Yes
Governor Ferguson	Yes
Governor Gramlich	Yes
President Guynn	Yes
President Jordan	Yes
Governor Kelley	Yes
Governor Meyer	Yes
President Parry	Yes

CHAIRMAN GREENSPAN. As you all know, we have received the initial installment of the SOMA study and Tom Simpson is here to brief us on it.

MR. KOHN. Do you want to look at the announcement first?

CHAIRMAN GREENSPAN. I am terribly sorry, yes! I took a look at the clock and decided it was running fast! Let’s look at the draft announcement. [Pause]

VICE CHAIRMAN MCDONOUGH. Bravo!

MR. KOHN. Yes, the second page of the handout shows the changes from last time.

VICE CHAIRMAN MCDONOUGH. Approved by silence it appears!

MR. PARRY. It sounds good!

CHAIRMAN GREENSPAN. I presume that silence indicates acceptance?

SEVERAL. Yes.

CHAIRMAN GREENSPAN. Tom Simpson.

MR. SIMPSON. Carol is passing out some materials that I will refer to in my remarks.<sup>2</sup>

Last week, you were sent two papers representing the first installment in the Committee's wide-ranging SOMA project. The other parts of this broad effort--covering selection criteria for alternative Federal Reserve assets, potential alternative market instruments, and the role for the discount window--will be discussed at the next couple FOMC meetings.

The first paper sent last week contains forecasts of the federal budget surplus going out a number of years, along with accompanying expectations for the contraction of the stock of Treasury debt and rise in the System's share of that dwindling stock. The second examines the recent performance of the Treasury securities market and prospects for that market, including the System's ability to conduct operations in Treasury securities going forward. I would now like to summarize briefly our findings, using the handout containing exhibits from those papers.

The upper panel of your first exhibit illustrates forecasts of the cumulative surplus in the federal budget over the coming decade under different scenarios for fiscal policy and assumptions for economic growth. The three solid lines illustrate outcomes under three fiscal scenarios and the middle path for real output growth--4-1/2 percent per year, the Board staff's assessment of structural output growth in the current year. Fiscal policy A represents a current services path, and does not allow for any discretionary adjustments of tax or spending policy to rising underlying surpluses. Fiscal policy B is based on future Congresses and presidents using the on-budget portion to finance tax cuts and spending initiatives, but not to touch the corresponding off-budget portion--an outcome that seems to have gained fairly widespread support recently. The third fiscal policy, policy C, goes beyond B and allows workers to devote two percentage points of their Social Security payroll taxes to private retirement accounts. One does not need to buy into the specifics of any of these fiscal alternatives but rather to regard them as proxies for a range of plausible outcomes. The paper also considers alternative output paths based on structural

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<sup>2</sup> A copy of the two staff papers, distributed to the Committee on September 27 and 29, 2000, have been placed in Committee files. A copy of the exhibits used by Mr. Simpson during his briefing is appended to this transcript. (Appendix 2)

growth being a percentage point higher and a percentage point lower than the 4-1/2 percent middle case. The effects of these alternative output paths are shown in the upper and lower ends of the shaded portions of the chart.

As you can see from the chart, the cumulative surpluses continue to rise under all of the possibilities contemplated in this study. The bottom panel translates these surpluses into paydowns of marketable debt. Under fiscal policy B and the middle path for output growth, cumulative surpluses reach about \$3 trillion by 2010, and would leave only about \$1/2 trillion of outstanding marketable Treasury debt in that year.

To get a sense of what these projections imply for System operations in the Treasury securities market, we also forecasted the System's balance sheet under the alternative paths for the economy. A number of factors affect the size of the System's balance sheet at any point in time, such as the behavior of reservable deposits and the Treasury's cash balance at the Fed. But over time the System's balance sheet has been driven by the demand for currency, and we expect this to continue going forward. Using our projections for reserves and currency, the top panel of your second exhibit illustrates the path of System ownership of Treasury debt under the current limit on per-issue holdings, which amounts to approximately a 25 percent share of marketable Treasury debt. Under fiscal policy B and the middle output path, the System's holdings would reach that limit in about three years, and thereafter the System would need to liquidate Treasuries as total outstandings fell--absent, of course, an upward revision to the limit. The middle panel illustrates that, under these assumptions, System holdings of other assets begin to build fairly rapidly starting in three years, and by 2010 would account for more than 80 percent of System assets. These dates could be brought still closer by additional dollarization abroad and the payment of interest on required reserves, which would boost our liabilities and assets. Thus, the time for the System to be ready to adopt alternatives to Treasury securities for supplying a permanent source of reserves to the banking system does not seem very far off.

Treasury securities have served the System's needs, and those of a wide variety of other holders, extremely well, given their very high liquidity and unrivaled safety. Moreover, the associated well-developed RP market in Treasury securities has been important for temporary System transactions. However, the large swing in the federal budget from deficit to surplus has already had a notable effect on the Treasury market, prompting various adjustments by the Desk. The third exhibit is intended to broadly represent the performance of the Treasury securities market over recent years. It shows bid-ask spreads quoted in the interdealer market in bills, the upper panel, and coupons, the lower panel. There has been an upward drift in this measure, which suggests a general erosion of liquidity in virtually all sectors of the Treasury debt market. Over this period, some notable disturbances have sent bid-ask spreads soaring, such as the financial market turmoil in the fall of 1998,

but these have been followed by partial recoveries, in part owing to adaptations by market participants and the Desk. Looking ahead, the kind of steady contraction in Treasury securities that we foresee is likely to be accompanied by further erosion in the depth and liquidity of that market and greater volatility and vulnerability to shocks.

As noted, the Desk, in response to occasional disturbances in the Treasury securities market and the general deterioration of liquidity and depth, has taken various steps to relieve pressures on the Treasury securities and RP markets and to facilitate its daily operations. These have included suspending bill purchases in 1998 and 1999, dividing coupon purchases into more tranches and spreading them over weeks or months, broadening the pool of RP collateral, and imposing limits on acquisitions of Treasury securities in auctions and in the secondary market. Prospectively, we expect that in the coming years the Desk will be able to continue to conduct a considerable volume of operations in the Treasury securities market. Over time, though, these transactions will be done at greater cost and with a greater impact on Treasury securities market, and at some point the System will need to cut back on transactions in this market and begin to rely on alternatives.

Finally, I have attached a list of System staff members who have participated in this portion of the overall project. Thank you.

CHAIRMAN GREENSPAN. Questions for Tom? Governor Gramlich.

MR. GRAMLICH. Tom, on Exhibit 2--and let me stick to fiscal policy B just for the sake of simplicity--in the top panel you basically worked that off the budget forecast and the 25 percent limit to compute our Treasury holdings?

MR. SIMPSON. Right.

MR. GRAMLICH. Then in the bottom two panels you put that together with your estimates of currency demand to compute what other assets have to be on the balance sheet to finance the currency demand and make this all work. So it is a combination of your fiscal policy assumptions and your currency assumptions, right?



MR. SIMPSON. Yes. Actually, the middle panel is more of a mirror image of the upper panel. What we have done in the upper panel is to forecast the stock of Treasury debt and also the growth in our balance sheet, which has been driven almost mainly by currency demand.

MR. GRAMLICH. Okay. Anyway, these two things are going on: We have declining Treasury debt, of which we are taking a share, and we have rising currency demand. So then we have these alternative assets that have to get huge in a few years. I take it what you're telling us is that we don't yet know what these alternative assets are. Is that for other parts of the study? That was my question. I kept looking for that [laughter] and I assume that's your next installment.

MR. SIMPSON. Right. This project was broken up into several pieces. We thought the first step was to get some idea of what the Treasury market is going to look like and what kinds of constraints we are going to face if we choose to continue to rely on that market in the coming years. And the tough stuff is yet to come!

MR. GRAMLICH. The fun stuff is still to come!

MR. FISHER. This tells you how big the animal behind door No. 2 is. It just doesn't tell you what the animal is!

MR. GRAMLICH. I know! I think we all know it's a big animal. I just wondered whether it has stripes or spots.

MR. SIMPSON. We're not saying that yet!

CHAIRMAN GREENSPAN. President Parry.

MR. PARRY. Mr. Chairman, I think this information is very helpful and certainly provides a good grounding for what is to come. And I am sure that is going to be extremely interesting and also challenging. First, I was wondering if we know anything about the lead times we would have in terms of being able to look at the material prior to discussing it. Secondly, I

wondered whether time would be set aside so that we can discuss this in an environment that may be slightly more leisurely than, say, after an FOMC meeting and before lunch.

CHAIRMAN GREENSPAN. Well, we can replicate what Bill McDonough was suggesting for the December meeting at some point. This is important enough.

MR. PARRY. This is one of the more significant issues we will have to deal with.

CHAIRMAN GREENSPAN. Of course the new administration and the Congress may take the issue out of our hands and make it all moot.

MR. PARRY. Of course.

CHAIRMAN GREENSPAN. But it strikes me that one question that has to be on the table is: Do we maintain the same form of open market operations that we always have? If you look at the size of these required alternative assets, you could buy a lot of baseball teams. I know one I'd like to sell you! [Laughter]

SPEAKER(?). We're okay, thanks.

CHAIRMAN GREENSPAN. President Minehan.

MS. MINEHAN. I don't think the people who are working on the alternative assets part of this study have quite taken into account baseball teams!

CHAIRMAN GREENSPAN. We are going to start to run out of alternatives.

MS. MINEHAN. Yes, I think that is right. That takes me to the real point I wanted to raise, which is that cash is driving this. And cash not only has an impact on our balance sheet, it has an impact on our fiscal infrastructure as well.

CHAIRMAN GREENSPAN. You mean currency?

MS. MINEHAN. Currency needs, and so forth. Are we doing anything--and maybe I should answer that question--to look at whether there are ways in the future to diminish the supply of

cash that is necessary or reduce the growth rate of currency? The balance sheet needs on the liabilities side are driven by the increasing growth in the use of cash in this country.

MR. PARRY. Most of the growth is overseas.

MR. SIMPSON. That's right.

MS. MINEHAN. That's right. I know it's mostly overseas.

MR. KOHN. We don't have anything as part of this project to look at ways to diminish the growth of currency. And I wonder as a policy issue, do we want to diminish the growth of this noninterest-earning debt out there?

MS. MINEHAN. It's at least worth looking at.

MR. JORDAN. Why?

MR. KOHN. We have always responded passively to demands for currency.

MR. MCTEER. The seigniorage is good!

MR. PARRY. It beats taxes.

MS. MINEHAN. There is an implied tax on it.

MR. KOHN. For the holders.

MS. MINEHAN. Yes, in terms of all of the vaults that we are building and the infrastructure that we have.

VICE CHAIRMAN MCDONOUGH. It's a very low interest rate.

MR. FERGUSON. We spend \$2 billion a year more or less and we get back \$28 billion a year.

MS. MINEHAN. Well, that's right.

MR. FERGUSON. I'd rather do profit sharing! [Laughter]

MS. MINEHAN. Okay.

CHAIRMAN GREENSPAN. I think what this tells us is that this whole issue is much closer up front than I think most of us have intuitively suspected. It is very difficult to get around the fact that if the off-budget items stay off budget and this actually acts as a unified budget surplus, the arithmetic is awesome.

MR. PARRY. Mr. Chairman, it is, but in a way we do have some time to consider the right decision, particularly if we are willing to change the 25 percent. I agree that there is a sense of urgency but what really comes through is the importance of the issue, I think.

CHAIRMAN GREENSPAN. Okay, any further questions? Shall we go to lunch? The next meeting is Wednesday, November 15<sup>th</sup>.

END OF MEETING