Meeting of the Federal Open Market Committee

June 27-28, 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, June 27, 2000, at 2:30 p.m. and continued on Wednesday, June 28, 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 and Stern, Presidents of the Federal Reserve Banks of Dallas and Minneapolis respectively

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

Ms. Cumming, Messrs. Eisenbeis, Goodfriend, Howard, Lindsey, Reinhart, and Simpson, Associate Economists

Mr. Fisher, Manager, System Open Market Account

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

Mr. Porter 1/, Deputy Associate Director, Division of Monetary Affairs, Board of Governors

Messrs. Freeman, 2/ Oliner, 3/ Struckmeyer, Whitesell, and Ms. Zickler, 2/ Assistant Directors, Divisions of International Finance, Research and Statistics, Research and Statistics, Monetary Affairs, and Research and Statistics respectively, Board of Governors

Mr. Reifschneider, 1/ Section Chief, Division of Research and Statistics, Board of Governors

Mr. Bomfim 2/ and Ms. Garrett, Economists, Division of Monetary Affairs, Board of Governors

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

Ms. Pianalto and Mr. Stone, First Vice Presidents, Federal Reserve Banks of Cleveland and Philadelphia respectively

Messrs. Hakkio, Hunter, Lang, Rasche, and Rosenblum, Senior Vice Presidents, Federal Reserve Banks of Kansas City, Chicago, Philadelphia, St. Louis, and Dallas respectively

Messrs. Altig, Fuhrer, Judd, Ms. Perelmuter, and Mr. Weber, Vice Presidents, Federal Reserve Banks of Cleveland, Boston, San Francisco, New York, and Minneapolis respectively

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1/ Attended portion of meeting relating to the Committee's discussion of the economic outlook.
2/ Attended portion of meeting relating to the Committee's long-run policy.
3/ Attended Wednesday session only.

Transcript of Federal Open Market Committee Meeting of
June 27-28, 2000

June 27, 2000--Afternoon Session

CHAIRMAN GREENSPAN. Good afternoon, everyone. Bill Stone will be representing the Philadelphia Bank today and the rest of the members are here, I presume. Shall we get started and approve the minutes of the May 16th meeting?

SPEAKER(?). So move.

CHAIRMAN GREENSPAN. Without objection they are approved. I would like a motion to elect David J. Stockton as Economist to serve until the election of his successor at the first meeting of the Committee after December 31, 2000. Is there a motion?

VICE CHAIRMAN MCDONOUGH. So move.

CHAIRMAN GREENSPAN. Is there a second?

SPEAKER(?). Second.

CHAIRMAN GREENSPAN. Without objection. Peter Fisher, please.

MR. FISHER. Thank you, Mr. Chairman. I will be referring to the package of charts in front of you that begins with the chart on forward rates.[1]

> In the top panel on U.S. dollar forward rates you can see that for much of the last few months the 9-month forward and the 6-month forward 3-month rates have been trading right on top of one another. They are both down a bit from their levels prior to the June 2nd release of the nonfarm payroll report and have returned roughly to where they were trading after the release of the ECI on April 27.
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> Looking down the page at the euro forward rates, it is clear that their 9-month and 6-month forward rates have also been trading on top of one another for some time. This leads me to the following inference: Notwithstanding a great deal of verbal intervention from the official sector in Europe about how the growth differentials between Europe and North America are likely

[1] A copy of the charts used by Mr. Fisher is appended to this transcript. (Appendix 1)

to narrow and reverse over the coming year, the short-term interest rate markets do not seem to share that assessment. If they did, it would seem to me that the euro forward rates would show more forward upward lift than they do.

At the bottom of the page, you can see that the Japanese forward rates have begun to tick up again of late as the melodrama continues about whether the Bank of Japan will or won't raise rates sometime soon. The speculation regarding a rate increase goes on apace and we see again the modest ticking up of forward rates.

Turning to the second page, it is clear that over the last four maintenance periods the fed funds rate has behaved rather well, trading right around the target with very low volatility since your last meeting. There really isn't much interest or excitement in our management of the funds rate per se.

As you can see on page 3, however, behind the veil of a nice stable funds rate is a rather different development having to do with the scarcity of Treasury collateral beginning to show through in the repo markets. Depicted on the chart in red is the 30-day moving average of the spread between the repo rate on general collateral for Treasury securities and the fed funds rate as we get a snapshot of it each morning. The solid blue lines represent 6-month averages over the periods encompassed by those blue horizontal lines. Clearly, over the last two years that average has been trending lower, with a widening of the negative spread at which Treasury collateral trades under the funds rate.

Two developments have in all likelihood taken place here. One is the scarcity of Treasury collateral; it is at a premium and will trade under the funds rate. There is also an element of defensiveness among the major institutional investors and money managers during a period when the Committee has been tightening, as they look for the safety of Treasury collateral. But to my mind the march down of those average rates is impressive. And I will note that one major dealer has said to me that they can fund themselves at 50 basis points under the funds rate with Treasury collateral, so acute is demand of their customer base for Treasuries as a safe haven cash management vehicle.

On the fourth page I have tried to summarize our reserve management operations this year as they relate both to the growth of reserve needs and the mix between outright and RP operations. I used as my base here the February 9th maintenance period, which gets us out of the year-end effects of the seasonal and the Y2K

buildup of cash and to a reasonable starting point for a base case. In the top part of the page I have shown changes in supply of Fed balances from the February 9th period to the current June 28th maintenance period. Autonomous factors have drained a little over $1 billion net over that period of time; that's overwhelmingly comprised of currency. We have had redemptions of $4.9 billion since that time, adding to reserve needs. And $6.9 billion has been added through SOMA purchases plus net changes in RPs over that period, leaving us a very marginal change in the total of nonborrowed Fed balances.

Let me first work down the page rather than across; I will come back to the figures at the upper right in a moment. The mix of activity involved in getting to that marginal change included outright purchases, here expressed in par values, from the end of January through June of $12.9 billion in Treasury securities, distributed as shown in the middle table on the page. Moving down to the next set of figures, we had a mix of a little over $11 billion in short-term RPs of under 15 days and $8-1/2 billion of long-term RPs in the February 9th period, for a total of nearly $20 billion outstanding at the beginning of February. We have decreased the amount of short-term RPs and increased the amount of long-term RPs, so that currently the level of RPs outstanding is $2.6 billion under 15 days--but that number bounces around every day--and $14 billion in longer-term RPs.

At the bottom of the page is a memo item giving the mix of collateral that we had in February compared with what we have today. Currently 42 percent of the collateral we have in the 15-day or longer RPs is Treasury collateral, 16 percent is agency debt, and 42 percent is mortgage-backed securities.

Going back to the top of the page, at the upper right I have shown projected reserve factors for the period from now to the September 6th maintenance period, which begins just about the time of your next meeting. We expect a little over $8 billion to be drained by currency, but over $15 billion to be drained as a result of net redemptions, principally from the 35 percent limit being applied to bills. That leaves us with a need to add about $23 billion on net from now until the beginning of September.

There is one other issue with respect to Treasury supply that I would like to mention. It just occurred to me that this is a matter that may become public before your next meeting. For over 20 years the Treasury has given foreign central banks preferred access, if you will, to the auction process in Treasury

securities, providing a mechanism through us for those institutions to bid in the auction. They have an "add on" in that they can always get their needs filled in the auctions.

This has created a problem for the Treasury in an era of declining issuance in that the Treasury can end up with more cash than it actually wants as the foreign central banks exercise their right to add on to the auction. The Treasury is very anxious to find a way to end this process, which gives them some uncertainty about the amount of cash they will raise. They are trying to cap the amount the foreign central banks can bid for in the auction at a set dollar figure, and they would like to cap that amount at a rather low level. No matter how you slice this--and we are working with the Treasury to come up with different formulas--the big accounts will have to find some way of bidding for Treasury securities other than through the noncompetitive foreign accounts mechanism. That is something we do for the Japanese, for example. We at the Desk are working with the Treasury to try to find a way to take care of the very small accounts--those of the developing economies all over the world that have very small cash balances and want to reinvest in bills. We are attempting to come up with a procedure that will ensure that those countries are taken care of through an automatic process but one that will require the big countries to look elsewhere.

This is overwhelmingly an issue involving the Ministry of Finance of Japan. It means finding some way for them to deal with their rather large investment needs, which they like to park in the short end of the market. Both the domestic and the international sides of the Treasury have been working on this and we have been giving them technical advice on different ways that it could be worked out. I don't know how it will be worked out, but it is likely that the Treasury will want to announce something in conjunction with their refunding at the beginning of August--at least that is when I understand they would like to move forward with this. So I just wanted to warn you of that upcoming event.

Mr. Chairman, we had no foreign exchange interventions in the intermeeting period. I will need a vote to ratify our domestic operations since your last meeting. We distributed copies of the draft announcement summarizing the operational changes we discussed at the Committee's last meeting and, as my note explained, we've gone over these with the Treasury. In addition to any questions on my briefing, I would be happy to take any comments or suggestions on that document, which the Committee members may now have. Thank you.

CHAIRMAN GREENSPAN. Questions for Peter on any of the subjects he has addressed?

MR. MCTEER. I thought you were supposed to be very nice to your large creditors!

MR. FISHER. We are going to be as nice as we can be to our large creditors! We have for some time, in our rather modest participation in the Ministry of Finance's auctions, had to compete directly by putting in competitive bids to buy Japanese Treasury bills. We have had no preferential treatment in Japan. Their procedure has been to we can only submit bids through their dealers. We will still permit foreign central banks, even the Ministry of Finance in all likelihood, if they wish to submit a competitive bid through us. We will accept it, but they will have to choose the rate. We will not give advice on rates or take part in that process. But it is a fact of life that the Treasury is now trying to find a way to work down its cash balances and the amount they issue at each auction without ending up with an uncertain and higher amount of cash than desired. It is a real mechanical problem.

MR. MCTEER. Are the amounts from the Japanese too big just to let them submit noncompetitive bids?

MR. FISHER. Yes. The Treasury, I think, would like to have the total of foreign noncompetitive bids be around $1 billion, summing up the needs of all the small countries. The Japanese Ministry of Finance is routinely rolling over in Treasury bill auctions.

CHAIRMAN GREENSPAN. What would happen if there were only noncompetitive bids?

MR. FISHER. That is clearly a problem. I don't think the Treasury can go that way; part of the answer here, no matter what else is done, is to get the big accounts into the competitive process. Obviously, they can't sustain an auction process in which--.

CHAIRMAN GREENSPAN. I just thought you would be so imaginative that you could figure out a way! [Laughter]

MR. FISHER. I hit a wall there! I'm open to suggestions and I'll be happy to relay them to the Treasury. But if someone isn't prepared to put out a few prices as to where they think the market will clear, I'm not sure we can get there.

CHAIRMAN GREENSPAN. I am. I know you can't! [Laughter] Other questions? If not, would somebody like to move to ratify the transactions?

VICE CHAIRMAN MCDONOUGH. Move approval of the domestic operations.

CHAIRMAN GREENSPAN. Thank you, Mr. Vice Chair. Without objection they are approved. Let's move on to what we used to call the "Chart Show" and I guess we probably still ought to do so. David.

MR. STOCKTON. I think we will! I, along with Karen Johnson and Larry Slifman, will be referring to the materials labeled "Staff Presentation on the Economic Outlook." [2]

> Your first chart provides a brief overview of our outlook for the U.S. economy over the next year and a half. As you know from reading the Greenbook, we lowered our projection for the growth of real GDP a bit, in response to our perception that the pace of activity may be slowing a touch faster than we had forecasted in May. But the basic contours of the projection have changed little. We continue to anticipate that past and prospective increases in the federal funds rate will lead to a substantial deceleration in the pace of real domestic spending--the red line in the upper panel of your first chart. Domestic spending, which has been rising at more than a 5-1/2 percent pace over the past two years, is expected to increase just 3-1/2 percent in 2001.

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[2] A copy of the materials used by Mr. Stockton, Ms. Johnson, and Mr. Slifman is appended to this transcript. (Appendix 2)

Continuing improvement in real activity abroad and our projected depreciation of the dollar combine to direct more demand here and abroad toward U.S. producers. This mutes some of the effect that slowing domestic demands might otherwise have had on the growth of output. As a result, growth of real GDP slows only about a percentage point to 3-1/2 percent next year.

Pressures in labor markets are expected to remain relatively intense over the next year and a half. With some lag, our projection of below trend growth results in an upward drift in the unemployment rate next year, but only to a little more than 4 percent.

Tight resource utilization and some continued acceleration in non-oil import prices provide a further boost to core PCE price inflation--the red line in the lower panel--over the projection interval. However, the effect of that gradual pickup on the headline price measure--the black line--is swamped by the sharp swings that we are projecting for energy prices this year and next. The increase in total PCE prices steps up to a 2-1/2 percent pace this year and drops back to a 2 percent rate in 2001.

The financial assumptions underlying our projection are the subject of your next chart. We continue to believe that a further tightening of financial conditions will be necessary to begin to relieve some of the inflationary pressures that appear to be building in the economy. The additional 75 basis points of tightening that we have assumed would push up the real federal funds rate a bit above the upper end of the range observed over the past decade. But given the upward influence of faster productivity growth on “equilibrium” real interest rates, our assumption on the funds rate implies less monetary restraint than it would have five years ago.

The degree of additional tightening that we have assumed would come as a surprise to market participants, and we would expect real rates on corporate bonds--the middle left panel--to resume the upward trajectory that has been apparent over the past year and a half. Thus far, that rise has done little to damp enthusiasm in equity markets. But, going forward, further increases in interest rates, coupled with a slowing in the growth of corporate profits, are expected to hold equity prices flat at about the level they have averaged thus far this year.

In the lower panel, I have attempted to summarize some of the financial crosscurrents at work in our projection with the aid

of a model simulation. The most notable of these crosscurrents has been the strength of the stock market in the face of the considerable increase in interest rates that has occurred over the past year. The red bars in the chart plot the depressing effects on the growth of real GDP that would be expected by the model to accompany the actual and projected increase in the real federal funds rate since last June. These effects are calculated assuming that the stock market, long-term interest rates, and the exchange rate evolve according to the model's expectations. As you can see, some effect on growth would have been evident in the first half of this year, with the restraint mounting noticeably in the second half of 2000 and in 2001.

Of course, financial developments are not unfolding in the manner predicted by the model. In particular, stock prices have risen more than 12 percent over the past year and are projected to remain flat going forward. By contrast, the model expected a drop of 13 percent over the past year and projects a further decline in coming quarters. The offsets provided by this surprising behavior are shown by the blue bars in the chart. As can be seen, the resilience of the stock market damps considerably the restraining effects that normally would be expected to accompany a substantial run-up in the funds rate. The total net effect of these influences is shown by the black bars.

Focusing on the black bars, this analysis suggests that, on average in the first half of 2000, there is little reason to have expected much restraining effect yet from the change in financial conditions over the past year. But moving forward--given both the lags in response to past rate increases and our assumption of some further tightening--the restraining influence of financial conditions should begin to show through more noticeably, with the effect turning negative in the second half of this year and becoming more so in 2001. In a nutshell, that's the basic rationale for our forecast of a significant, but not precipitous, slowing in activity over the next year and a half.

The transmission of this restraint to household spending is the subject of your next chart. As we noted in the Greenbook, the buoyancy of consumer sentiment--shown in the upper left panel--has led us to discount the recent weakness in the retail sales figures as signaling the start of a more abrupt down-shift in spending. That said, we do see the underlying determinants as pointing to decidedly slower growth in consumer outlays. Although there have been some big ups and downs in the stock market thus far this year, for the most part prices have moved sideways--a trend, as I

noted, that we are projecting will continue. As a consequence, the household wealth-to-income ratio--the black line in the upper right panel--is expected to fall back and the personal saving rate--the red line--to drift up. That manifests itself in our projection as a fairly steady deceleration of consumer spending this year and next--the red bars in the middle left panel.

Housing appears to be the area where higher interest rates are leaving the clearest mark on demand. As depicted by the red line in the middle right panel, there has been a significant deterioration in consumer perceptions of home buying conditions. Builders' ratings of new home sales--the black line--also have become less favorable. As can be seen in the lower left panel, rising interest rates and higher home prices have lifted monthly payments relative to personal income over the past year. And, given our projection of higher rates, this burden is likely to increase further in coming quarters. When combined with slower income and employment growth and a diminishing impetus from rising wealth, we are projecting total housing starts to slide from 1.67 million units in 1999 to about a 1.5 million unit pace by the end of next year.

In contrast to the reasonably clear signs of slowing in residential investment, the recent indicators of capital spending by businesses have remained very strong. As seen in the upper left panel of chart 4, new orders for nondefense capital goods moved up in recent months and have remained above shipments. The accumulating backlog of orders should provide considerable support for equipment spending in coming months.

Total real E&S--shown on the right--is expected to slow only a little from its recent rapid pace. Information technology is expected to continue to contribute the lion's share of the growth in real E&S--the red shaded area in the panel--while outlays for other equipment--the gray area--are expected to slow appreciably.

A sharply declining relative price for IT equipment--shown in the middle left panel--should provide ample incentive for continued strong growth of investment in the tech area. The deceleration of business output that we are projecting, plotted at the right, is likely to leave a small mark on investment in information technology, but to be a more noticeable drag on other types of capital outlays.

Another area of spending that seems likely to respond to the slowdown in output growth is nonresidential construction,

shown in the lower left panel. The recent boom in activity in this sector appears at odds with the slowdown in price appreciation and rents that we have observed, especially for office buildings and retail structures. In an environment of rising interest rates, somewhat less ample provision of credit, and slower growth of output, we are anticipating a considerable drop back in the growth of activity in this sector.

The enormous strength we have witnessed in business and household demand in recent quarters has coincided with a steep drop in the inventory-sales ratio, plotted at the right. However, there are few reports that businesses have felt uncomfortable with these low levels of stocks, and we expect this ratio to drift down further, on net, over the forecast interval, and for inventories to be an essentially neutral influence on the growth of real GDP.

Karen will now continue our presentation.

MS. JOHNSON. Your next chart reviews developments in selected international financial markets since the February meeting. As can be seen in the top left panel, the average foreign exchange value of the dollar in terms of the currencies of the other major industrial countries--the black line--has risen on balance so far this year, although it has most recently given back some of that appreciation. Through May, the dollar continued its upward trend in terms of the euro. After falling to a value of about 90 cents, the euro strengthened for a time, amid signs that in the near term European real growth would start to compare favorably with that in the United States, before relapsing in recent days. In terms of the yen, the dollar today is little changed from where it started the year. Three-month market interest rates, reported on the panel on the right, have risen in the euro area and in the United States, in line with tightening moves by the two central banks. In Japan, the zero interest rate policy remains in place, but market participants expect that may soon be changed.

The middle panels report financial data for selected Asian emerging market countries. After the turbulence of 1997-98, these currencies have tended to recover, and the dollar has depreciated against them. However, the Indonesian rupiah, the blue line, has continued to be buffeted by political developments in that country. Despite the recent slide in the rupiah's value, the Indonesian short-term rate and the dollar spread--shown on the right--have moved down a bit on balance since the end of January. That's partly in response to the IMF finding that the conditions

for further disbursements from the Indonesian program have been met.

The approach of the Mexican election has imparted some upward pressure on the dollar relative to the peso, the blue line in the bottom left panel; Mexican interest rates have edged down on balance but are up from their lows in April. In contrast, the most recent moves of the dollar against the Brazilian *real*--the red line at the left--have been toward depreciation, and short-term Brazilian rates have eased considerably.

Your next chart provides an update on recent trade developments. As can be seen in the upper left panel, the increase in the value of exports from December to April was limited by the effects of the strike at Boeing on aircraft exports--line 2--which have not yet fully unwound. With some allowance for that transitory element, export growth in the first third of the year has been moderately strong, particularly for other capital goods--that is, machinery and equipment, shown on line 3. The small panels to the right illustrate that our exports have expanded rapidly to Canada and Mexico, where real output growth has been robust and investment strong, and are on an upward trend in western Europe. Exports to Asian trading partners have still not returned to their pre-crisis peaks.

Imports are shown in the lower left panel. The increase this year through April significantly exceeds that of exports, even when adjusting for aircraft. Other than oil--line 2--the increase in imports is largely in the categories of capital equipment and consumer goods--lines 3 and 6. As is visible in the lower right panel, the expansion of real imports has been rapid over the past few years, while real exports clearly show the effects of the global crisis in 1997 and 1998. As a consequence, the gap between the two has widened impressively.

Global prices of traded goods are the subject of your next chart. We were guided primarily by the futures prices in writing down our forecast for oil prices, shown in the upper left panel. Nothing in the announcement last week by OPEC of an increase in quotas of 700,000 barrels per day has led us to second-guess the downward trend we have put in these prices, although current low inventories could contribute to continued volatility in spot prices for some time. Non-oil commodity prices, on the right, are expected to recover in the near term from recent declines that reflect particular supply fluctuations and then on average to move

up at a moderate rate over the forecast period, reflecting the path of quotes in futures markets.

We continue to expect that the real exchange value of the dollar, the middle left panel, will depreciate on balance over the forecast period. We have little basis on which to pinpoint the timing of downward moves in the dollar so we have spread the depreciation over the next six quarters. Of course, more volatile episodes of exchange rate adjustment are more likely than extended gradual change.

The middle right panel shows the paths of industrial country prices--the black line--and non-industrial countries--the red line--expressed in dollars over the forecast period. In the recent past, dollar appreciation has tended to offset inflation in the other industrial countries, resulting in no trend to date in the black line. Going forward, we expect to see a positive trend in this measure, largely accounted for by the projected nominal depreciation of the dollar. Developments in the non-industrial countries have been imparting upward pressure on dollar import prices since mid-1998 when those currencies hardest hit by the crisis reached turning points. Over the next six quarters, that upward pressure will continue, explained primarily by domestic inflation in those countries.

The upward slope to these two forecast lines accounts for the shift up in projected inflation of the prices of imported core goods that is shown in the bottom panel. Core import prices are expected to accelerate to an annual rate of increase of about 3 percent, after experiencing significantly lower increases and even decreases since 1997.

The staff outlook for growth of real GDP abroad is summarized in the top panels of your next chart. Foreign growth rebounded last year to an average rate comparable to U.S. growth. In some countries, growth in the first quarter was surprisingly robust, putting our estimate for average foreign growth in the first half at a particularly high pace. Going forward, we look for foreign growth to moderate some and to remain comparable to U.S. growth. As can be seen on the right, there are important differences among our foreign trading partners, with the Asian developing countries (the red bars) resuming growth at rates that are significantly higher than those of the Latin American countries (the blue bars) and the foreign industrial countries (the black bars). For most countries, our thinking is that the very rapid growth of 1999 and early 2000 reflects a recovery in activity that

has been possible because of the availability of unutilized resources. As the amount of slack in these economies diminishes, growth will have to come down from what are unsustainable rates.

This pattern is particularly evident in the Asian emerging market economies, shown in the middle panels. Korea, in particular, has recorded an extremely rapid increase in industrial production--the red line in the left panel--that has already eased off. As can be seen in the table on the right, on average these countries experienced very rapid growth last year that seems to have continued into the first half of this year. Although there are variations across countries, we look for some moderation of growth in them. Some slowing in the growth of exports likely will contribute to this process, as will policy adjustments in the countries themselves.

In Latin America, illustrated in the bottom panels, the recent strength of activity is importantly accounted for by Mexico, where industrial production--the blue line at the left--has spurted this year. Growth in Brazil has been solid, and Argentina is showing tentative signs of recovery from its sharp downturn. Our forecast for real output growth--the panel to the right--projects lower growth in Mexican output over the next six quarters, as U.S. growth slows.

Your next chart reports recent developments and our forecast for the major foreign industrial countries. As can be seen in the top left, measures of business confidence have generally risen over the past several quarters in these countries, even in Japan--the green line. Unemployment rates, shown in the right panel, have come down significantly, except in Japan, as activity in these countries has accelerated.

The improved confidence by those in the business sector and the progress in lowering unemployment rates open the question of whether these countries might be in the early stages of strong investment demand, rising productivity, and improved potential output growth. Right now, we have little firm evidence that such developments are occurring, except possibly in Canada. As a consequence, we have been fairly conservative in our forecast for real GDP growth, shown in the middle left panel. We project that on average real output growth in the industrial countries will slow some over the remainder of the forecast period, but that slowing is largely accounted for by Japan. We continue to expect that domestic demand growth in Japan, shown

on the right, will falter as fiscal stimulus wanes and as needed structural reforms limit any improvement in labor market conditions, restraining consumption spending as a result.

We are expecting some moderation of growth in Canada also, as lower real output growth in the United States and the effects of recent and prospective monetary tightening slow economic expansion in Canada to a more sustainable pace. In the euro area and the United Kingdom, we are projecting sustained robust growth, supported by continued growth of domestic demand, shown on the right.

With business confidence strong, we look for fixed investment to be an important source of demand stimulus. Investment as a share of GDP, shown in the lower left panel, has risen noticeably in Canada during the current expansion. There are signs of a slight upward trend in France as well, but less so in Germany.

Investment in capital goods and processes that embody the new IT developments is one channel by which productivity enhancement could develop in Europe. Some indication of support for that activity is shown in the lower right, where measures of venture capital for the purposes of early-stage financing and expansion financing are shown as a share of GDP. This measure has risen sharply in the 1990s in Germany, from an admittedly low base, and somewhat less in the United Kingdom. Increases have also occurred in the United States and Canada, where venture capital activity is already substantial and where gains in productivity are more evident in production data. In contrast, these data suggest little use of venture capital in Japan as a device for financing investment in new technologies. Our current judgment is that moderate growth will be sustained in Europe, but we cannot confirm a major impact at the macroeconomic level yet from new IT developments.

Your final international chart summarizes our analysis of the U.S. external sector. In the top panels, the growth of exported goods other than agricultural products, semiconductors, and computers--that is, core exports--is expected to remain moderately strong, with foreign growth (the red bars) providing firm support while relative prices (the black bars) switch from restraining to boosting exports. Over most of the forecast period, the growth of core exports will continue to be outdone by rapid growth of core imports, shown in the middle panel. U.S. GDP--the red bars--remains the principal factor determining growth of these imports.

The projected slowing of U.S. output growth next year should reduce import growth, as will relative prices, the contribution of which will move from a moderate positive to a small negative factor. As shown in the top right panel, we look for the contribution of total exports (the black bars) to U.S. GDP growth to strengthen in the second half of next year. The positive boost from exports to U.S. GDP should about offset the effect of imports (the red bars), resulting in a neutral impact on GDP from the external sector.

As can be seen in the middle left panel, with the trade deficit widening further and investment income showing larger deficits, we expect the current account deficit will exceed $500 billion at an annual rate by the end of 2001, nearly 5 percent of GDP. To date, the United States has had little difficulty financing the widening current account deficit. The strength of the U.S. dollar is one indication of this. Another is the large scale of private capital inflows. As shown in the panel to the right, foreign private purchases of U.S. securities remain at extraordinary levels, despite the ongoing net selling of U.S. Treasury securities by foreigners. Foreign direct investment in the United States, which has been elevated in part by the general merger wave, declined somewhat in the first quarter but remains high, at a pace about comparable to U.S. direct investment abroad.

The panels at the bottom depict two simulations done with the staff's global model. The solid black line indicates the Greenbook path for the U.S. current account through 2001 and the extension that was constructed for the Bluebook for 2002. The simulation labeled U.S. dollar depreciation--the blue line--plots the implications for the U.S. current account balance of a uniform rise in the risk premium on U.S. assets. This shock induces an immediate 5 percentage point decline in the trade-weighted value of the dollar starting in the third quarter of this year. This alternative path for the dollar has a small but perceptible effect on the current account balance, improving it about $30 billion by the end of 2002.

The alternative scenario also involves dollar depreciation, but that depreciation results from a tightening of 100 basis points in short-term interest rates relative to our baseline in the euro area and the United Kingdom and of 25 basis points in Japan. Such a development could occur if generally stronger activity abroad leads those central banks to react strongly, without taking fully into account similar moves being made elsewhere. In this case, the weighted average dollar depreciates about 3-1/2 percent by the

end of the period shown, reflecting substantial moves down against the euro and the pound. As you can see, a dollar depreciation brought about by such a policy move abroad does not improve the U.S. current account balance within the interval shown; in fact, the deficit widens. This results from the negative impact on foreign GDP of the monetary policy tightening moves abroad, which offsets the stimulative effect of dollar depreciation on U.S. export demand and leaves U.S. real net exports and U.S. GDP little changed. With foreign GDP weakened by the monetary tightening, U.S. earnings from assets held abroad fall, and the current account deficit widens, despite the weaker dollar. These simulation results highlight the fact that the implications of dollar depreciation for U.S. external balances depend importantly on the factors inducing the decline in the dollar.

MR. SLIFMAN. Your next chart presents our productivity forecast. The upper left panel provides some longer-run perspective, while the upper right panel magnifies the current situation. We are projecting that the rate of growth of structural productivity in 2000 and 2001 will be a bit higher than it was in the preceding two years. Indeed, at a 3.2 percent annual rate this year and next, our projection is clearly at the high end of the range of outside estimates.

The acceleration of structural productivity evident since 1995 reflects both a quickening in the pace of capital deepening and a pickup in the growth of multifactor productivity. The middle panels address the capital deepening issue. Capital input, shown on the left, measures the services derived from the stock of physical assets. As you can see, the index of capital services from information technology equipment and software (the red bars) has been accelerating since 1973, while the growth of other capital inputs (the gray bars) has remained close to the 2 percent annual rate observed over the past quarter century. Of course, to go from capital input growth to capital deepening, the trend growth in hours of work--currently about 1 percent annually--must be subtracted off.

In calculating the contribution of capital deepening to productivity growth, changes in capital-labor ratios are weighted by capital income shares. The middle right panel shows the capital income share of information technology equipment and software. The steep advance of this share, combined with the acceleration of IT capital input, has been the primary source of the pronounced pickup in the contribution of capital deepening to structural productivity growth--line 2 of the table. Between 1973

and 1995 (the first column), capital deepening added seven-tenths of a percentage point per year to productivity growth, compared with 1.6 percentage points in the late 1990s (the third column). Multifactor productivity growth--line 4--which reflects the effects of such things as new technology, economies of scale, improvements in managerial skill, and changes in the organization of production, picked up nearly half a percentage point over the same period. Going forward, our investment forecast is consistent with more capital deepening, while ongoing improvements to how business is conducted will show through to even faster growth of multifactor productivity.

Despite the favorable productivity performance, we still are forecasting a build-up of inflation pressures. Focusing on the upper panels of chart 12, you can see that both core CPI and core PCE prices have accelerated recently, measured at either the three-month, six-month, or twelve-month frequencies--the red, blue, and black lines respectively. In the case of the so-called "pipeline" inflation indicators, presented in the middle panels, twelve-month changes in both the core intermediate goods PPI and the core crude goods index have moved up distinctly over the past year or so. Similarly, the index of prices paid in the NAPM manufacturing survey shows that since late last year a sizable number of firms have reported paying higher prices for their materials and supplies. It should be noted, however, that industrial commodity prices and the NAPM index have softened of late, as manufacturing output has moderated.

During the last two periods of rising inflation pressures--1988-89 and 1994-95--widespread bottlenecks and shortages were reported as firms in a number of industries--for example, primary metals, textiles, paper, and plastics--were operating at very high utilization rates. Currently, however, capacity utilization is well below the levels reached in those episodes, and bottlenecks and shortages seem to be few, apparently reflecting the rapid growth of capacity during recent years.

To illustrate the point, in the lower panel I have listed a <u>sample</u> of the items that purchasing managers reported to be in short supply during the two previous periods of rising inflation as well as the <u>complete</u> list shown in the most recent NAPM survey. Consistent with the numerous press stories on the subject, the purchasing managers do report shortages of one critical group of products--electronic components; and, as noted in the Greenbook, those shortages are having an effect on computer prices. But that's pretty much it. There are no reports of shortages for such basic materials as aluminum, steel, or industrial chemicals.

So, where does that leave us in terms of the outlook for inflation? Chart 13 presents part of the staff's view. The first part of our story has to do with sustainability--or lack of it, to be more precise. One way of demonstrating this point is illustrated in the upper panel. The idea behind the picture is one that the Chairman has discussed many times and is based on a modification of the growth accounting identity. That is, arithmetically the growth of domestic demand equals the sum of the growth of productivity, population, the participation rate, and one minus the unemployment rate, plus the contribution of net imports. The chart shows the role of three of those items: falling unemployment and rising participation--that is, a shrinking pool of available workers--as well as the widening trade deficit. So, for example, during the four quarters ending in 2000:Q1, domestic demand rose 5.7 percent, of which 1-1/2 percentage points was met by the factors shown on the chart.

In terms of the sustainability issue, there are two ways to satisfy above-trend growth of domestic demand: We can make the goods here or foreigners can make them for us. If we make them here, we can do it by drawing more people into the workforce or by increasing productivity. But the pool of available workers can't be drawn down forever; likewise, the trade deficit can't widen forever. The upper panel is one way of scaling the extent to which we have been relying on these two "safety valves" to maintain demand growth.

By this measure, the growth of domestic demand has been relying on these unsustainable sources for most of the past seven years, which has contributed to a widening GDP gap--the middle panel. Indeed, currently we estimate that the level of actual GDP is about 3 percent above the level of potential.

The lower panel shows the historical relationship between the GDP gap and price acceleration, as well as the staff projection. The horizontal axis plots the GDP gap measured at the end of year "t-1" and the vertical axis is the acceleration in core PCE prices during year "t". Although there are one or two obvious outliers, for the most part the points cluster around the fitted regression line, plotted in blue. The regression suggests that a 3 percent imbalance between aggregate demand and aggregate supply at the end of last year is likely to be associated with a 0.6 percentage point step-up in inflation this year. Although the approach we actually use for projecting inflation is more complex than this simple bivariate relationship, the forecast suggested by

the regression is reasonably in line with what we've written down in the Greenbook for the average acceleration in core PCE prices during 2000 and 2001--the red dots on the chart.

An alternative, but certainly not independent, way of thinking about the inflation process is presented in Chart 14. Here I show a cost accounting of inflation for the nonfinancial corporate sector. This is just an extension of the tables I send the Committee shortly before each meeting. The logic of this approach is based on the identity that relates inflation to changes in unit labor costs, unit nonlabor costs, and unit profits, where output is measured in value-added terms from the income side. The upper panel shows fourth-quarter-to-fourth-quarter increases in compensation per hour and productivity--the components of unit labor costs. As you can see, with aggregate demand growing more quickly than supply and with labor markets extremely tight over the forecast period, we expect hourly compensation growth to pick up. At the same time, we think that productivity growth is likely to slow, as employers catch up on some hiring while output is slowing. The result is an acceleration in unit labor costs for the nonfinancial corporate sector over the next two years.

The middle panels show the other two components of the identity. We are projecting a continuation of the modest increase in nonlabor costs posted over the past year or so, primarily reflecting higher interest costs. Finally, unit profits, which climbed sharply earlier in the expansion, are projected to drop back somewhat over the next year and a half, as a competitive business environment makes it difficult for firms to fully pass on higher unit costs.

The bottom panel illustrates how this all adds up for the nonfinancial corporate deflator. Note that because this is a sector-wide price index, it includes energy and food. The jump in unit labor costs expected this year leads to a pickup in inflation from about 1/2 percent during 1999 to 1-1/4 percent over the four quarters of 2000. In 2001, however, the further acceleration of unit labor costs is offset by the projected drop in profitability, and price increases slow a bit. This contour is roughly similar to the one shown for total PCE prices in the bottom panel of Dave's first chart.

MR. STOCKTON. In Chart 15, I offer a few shreds of evidence on the question raised at the last meeting about whether we might be in the process of overdoing this period of tightening to an extent that could result in a hard landing for the economy.

The upper panel dusts off a statistical technique developed by my colleague Glenn Rudebusch at the San Francisco Fed when he was on staff here at the Board. In brief, the technique analyzes the index of leading economic indicators and assesses whether its recent behavior conforms with patterns observed in periods immediately prior to or during a recession. I have plotted here this model's estimate of the probability that the economy is in or will be in a recession within six months. By this measure, that probability is less than one percent.

A somewhat different approach is employed in the middle panel. In this exercise, we use our large-scale econometric model to produce a one-year-ahead forecast starting in each quarter since 1973. Then, using stochastic simulation, we estimate how vulnerable the economy was in each of those periods to random shocks. Specifically, we calculate the frequency with which random shocks are able to produce two consecutive quarters of negative GDP growth during the one-year forecast period. That estimated probability is plotted here. As can be seen, this measure tends to rise prior to economic downturns. For the second quarter of this year, the probability of encountering two consecutive quarters of GDP decline in the next year is about 7-1/2 percent. Although the probability has drifted up over the past year, it is well below levels preceding past downturns, and even below the probabilities that were estimated for the 1994 tightening period.

While I hate to end our presentation on what might be considered somewhat of a downer for the staff, the lower two panels are intended to provide some perspective on how much comfort you should take from the upper two panels. I went back and looked at the Greenbooks that were prepared six months prior to the business cycle peaks of 1981 and 1990. In the lower panels I have plotted the projections for real GNP growth taken from those Greenbooks--the black lines--and actual outcomes as reported in the Survey of Current Business shortly after those periods--the red lines.

In January 1981, the staff was projecting considerable weakness for that year and for 1982. However, we did not foresee the onset of the largest recession of the postwar period, which began in the summer of 1981 and gathered force that autumn.

In the January 1990 Greenbook, we correctly projected a continued step-down in the growth of real GNP, but missed calling for a peak in activity that summer and the contraction of

> output that began in the fall. To be sure, no one was expecting the invasion of Kuwait and the accompanying spike in oil prices. But that's part of the point. It's difficult to foresee the shocks that can knock an economy off track, and neither we nor other forecasters have been very successful at that endeavor in the past. So there is probably some justification for the sweaty palms that a number of you admitted to at the last meeting.
>
> But in the end, we do not see the likelihood as high that the economy is in danger of overshooting on the down side. And, we remain comfortable with our projection of a steady slowing in growth this year and next. Moreover, I would not want this analysis to leave the impression that we see the risks as asymmetric. This economy has demonstrated much greater resilience than most forecasters had anticipated, and, with total and core measures of inflation having moved up over the past year, clear inflation risks are present.
>
> The final chart presents your forecasts for 2000 and for 2001. The central tendency of your forecasts anticipates some slowing in the growth of real GDP between this year and next, with the unemployment rate remaining near or slightly above its current level. Inflation, as measured by the PCE price index, is expected to edge down next year.

CHAIRMAN GREENSPAN. Thank you. As an aside, the probability distribution based on the leading indicators looks remarkably good, but my recollection is that about every three years the Conference Board revises back a series that did not work during a particular time period, so the index is accurate only retrospectively. I'm curious to know whether these are the currently officially published data or the data that were available at the time. I know the answer to the question and it is not good! [Laughter]

MR. STOCKTON. Right. We use the data as they are currently published and the probabilities per se as they are calculated by reestimating the model on those data. Though that index looks reasonably good, it clearly did not do very well, even on these reestimated data, in that 1990 episode. Even when we were in a recession, the index was still suggesting that the probability of being in a recession was only 50 percent. So that was a relatively weak indicator. And I think to some degree the same criticism could be leveled at the middle panel, which

probably overstates the ability of that model and technique to signal oncoming recessions because that also reflects the structure of the model as it currently exists, estimated on current data. So I think both probably overstate the probabilities.

CHAIRMAN GREENSPAN. The second, however, is a more complex structural model from which we would expect something like that. The alleged advantage of the leading indicators, which may be viewed as a simple reduced form small sample forecast, is that they are supposed to do all the macro model is supposed to do. So in a sense they are leading us astray more than a leading indicator should, if I may put it in those terms.

Let me ask a question relevant to a crucial conclusion that is coming out of all of this. How would the Greenbook, and eventually the Bluebook, look were we to do all of our simulations with the NAIRU equal to the unemployment rate?

MR. STOCKTON. In the Bluebook I think there is a simulation that has a NAIRU that's basically the current unemployment rate.

CHAIRMAN GREENSPAN. I am raising the issue, in a sense, more in the Greenbook context. What I am trying to get at is how crucial the NAIRU estimate we have now, which is 5-1/4 percent, is to the conclusions that are emerging. That's because, as Larry points out, we are dealing with unit labor costs, which essentially are moving at a lower pace than at any time in the most recent period. On the surface, the immediate response is that the way to describe the inflation emerging in the context of that set of data is this: The gap between the NAIRU and the unemployment rate is putting pressure on the compensation numbers, which works through to a rate of change that is in excess of productivity growth, and this leads algebraically to an acceleration in unit labor costs. The gap between the NAIRU, as defined in the model, and the unemployment rate has been very large for a very long period. And, clearly,

we have not seen the process that is described in the Greenbook forecast emerge. The reason I raise the question is that how we structure policy, through what will be a very difficult period in the months and quarters ahead, is going to depend crucially on how we view the various underlying forces that are emerging. I am just asking, with the evidence that we have to date, how comfortable you are with the conclusion that the single-point estimate of the acceleration of inflation in the Greenbook, which as you point out is in opposition to market expectations, has a high probability of occurring.

MR. STOCKTON. I guess the first thing I would say is that within the context of the Greenbook forecast, in an economy with no additional tightening we would see the unemployment rate drifting down a bit further from where it is currently. So even if one were to take as the NAIRU the 4 to 4-1/4 percent unemployment rates that have prevailed over the past year or so, our expectation would be that we could be running below that level. So, unless one wanted to argue that the NAIRU may be moving down even further, there would still be--

CHAIRMAN GREENSPAN. I purposely defined it as being equal to the unemployment rate. Let me stipulate that. I don't want to go too far. The law of supply and demand says that there is a level of the unemployment rate that must of necessity drive compensation increases beyond the rate of increase in productivity. But there is a crucial issue here, which is the specification of the way this process occurs. It is quite different from the general view, which is unquestionably verifiably true--namely, that as the unemployment rate falls, the pressure on compensation per hour must rise or the law of supply and demand has no relevance to anything. It is the very special specification of the structure of this model, which stipulates that a specific gap exists, that has worked rather well in years past. But the recent evidence of that is at least seriously questionable. And the reason I raise the issue is very

honestly because if I believe the Greenbook forecast and if I believe the Bluebook forecast, I would say that we are well behind the curve at this particular stage in monetary policy. And I don't believe that. In fact, due to great substantive insights on our part and more importantly a great deal of luck, I think that is not the case.

But it is terribly important that a precise specification of how a particular economic event materializes rests at the base of the structure of our model. We have a very large, very elaborate, and very sophisticated econometric model. But at the core of the conclusions we are looking at today, a specification of how the NAIRU is defined relative to the unemployment rate and the marginal effect of that gap on compensation per hour is a crucial driving force in the forecast. If we were to create a reduced form of this model, it would have this specification essentially at the core of the conclusion. So the real question that I am asking is essentially the degree of confidence we should have in this. I wonder whether there should be a wider range of uncertainty about the specification, mainly because of the poor performance of these relationships over the last several years. That is, the relationships between NAIRU, the unemployment rate, and hourly compensation have behaved in a far less impressive manner than they clearly did in earlier years. The presumption here is that the relationships will return to where they were--or at least I assume that is the case. That may well be true. Indeed, we have to be very wary because that may in fact be the case. I raise the concern that I have in the form of a question mainly because I'm trying to ask it more as the devil's advocate than I may very well believe in light of the fact that it is crucial to our deliberations.

MR. STOCKTON. Let me make a couple of comments. One, I would not want to overstate how well this paradigm has worked in the past either. It's not as if this "fit like a glove" previously and suddenly something has gone so far off track that we can clearly see

evidence of considerable structural change. Two, to answer your question about how confident I am, I would refer you to Chart 4 in the Bluebook, which presents confidence intervals around these forecasts that are based, in essence, on our econometric model, not necessarily judgmental forecasts. As you can see, those confidence intervals are really rather considerable, but I think that chart probably is a pretty reasonable representation of the kind of uncertainty we think you are confronted with in making policy. A 70 percent confidence interval on the extension of the Greenbook forecast could imply stable inflation. Even with an unemployment rate below the NAIRU, an inflation rate that runs at just 2 percent, which is essentially where it has been running, is within those confidence intervals under the structure of this model.

CHAIRMAN GREENSPAN. And these are picking up structural misspecifications as well as exogenous data input errors?

MR. STOCKTON. Yes, in the sense that these are full confidence intervals.

CHAIRMAN GREENSPAN. But I'm trying to understand what the confidence interval is in fact measuring.

MR. STOCKTON. It is measuring all of the above--the uncertainty about the model, based on how it has performed in the past, as well as the uncertainty about what goes into that model.

CHAIRMAN GREENSPAN. In other words, in a sense, analytically it is the structural specification errors, missing variables, misspecified coefficients, as well as inaccurate exogenous inputs into the forecast system?

MR. STOCKTON. Yes, pretty much. I suspect this does not include the coefficient uncertainty about the parameters on variables; it has a coefficient uncertainty in terms of the intercepts in the models. But as you can see, that confidence interval widens out to over 2

percentage points on price inflation, so there is considerable uncertainty. Obviously, the staff forecast is a forecast of what we think will happen under a given path of the funds rate. It is not a prescription for policy or for how policy should be conducted when faced with uncertainty about the structure of the model. In fact, I would interpret the Committee's behavior in recent years as having responded to the widening uncertainty about the structure of the model and the economy by reacting less forcefully to incoming economic developments than you might have had you had full confidence in the structure of the model. I think it is important to remember that about the forecast--that it is not a prescription, but a forecast. And that forecast has considerable uncertainty in a number of dimensions. You have mentioned a couple in terms of the structure of the wage/price sector. But the model has been off considerably in many other areas that are also important for your considerations--for example, the behavior of equity markets and how they might respond to further changes in the federal funds rate. It all adds up to a lot of uncertainties and some pretty big confidence spans; and I would imagine it suggests caution on your part in interpreting the forecast that we provide you.

CHAIRMAN GREENSPAN. That is useful. Thank you.

GOVERNOR MEYER. Could I just follow up on that? I think the staff provided some very good information that in my view is quite responsive to the Chairman's concerns when they ran a simulation with a NAIRU that is a percentage point below the staff estimate. Maybe you would like to talk about that simulation. I think it is a good way of dealing with some of these questions in terms of seeing how different some of these--

CHAIRMAN GREENSPAN. I saw that; that was helpful.

MR. POOLE. Mr. Chairman, on the same point, if I may? Dave, let me ask the question the way I interpret the Chairman's query--or maybe I don't have quite in mind what he

does. Suppose you set the NAIRU in the model simulation arbitrarily equal to the current unemployment rate. That short-circuits all of the wage/price mechanisms that come from the gap. Is there a mechanism in the model that under those circumstances will pin down the rate of inflation or the price level or however you want to put it? Or does the whole wage/price mechanism in the model flow from a gap?

MR. STOCKTON. In a model in which the NAIRU in essence was last period's unemployment rate, I think you would still be able to pin down inflation. Monetary policy will ultimately determine the rate of price inflation even in a model with that specification of wage/price behavior. I'm not sure if there is a mechanism--

CHAIRMAN GREENSPAN. Governor Meyer actually had the floor. This is a very important discussion, so let's do it in a sequential manner. Governor Meyer.

MR. MEYER. The dynamics are important here, and that is what I was thinking about. You don't need just the reduced forms in some sense, the static ones; you need the dynamic process. And the disequilibrium process through the gap is the mechanism that gets you from one inflation rate to another. I’m not sure, but I think if you increased the rate of monetary growth in that model and you didn't have the dynamics working through the gap, you’d have no mechanism to get you from one inflation rate to the other. So, what I would urge--

MR. STOCKTON. We do have inflation expectations.

MR. MEYER. Well, if there is no mechanism to generate higher inflation, why would inflation expectations go up?

CHAIRMAN GREENSPAN. We didn't have it in the 1970s. We had stagflation, which did not involve a gap problem.

MR. STOCKTON. You can always produce a series of shocks.

MR. MEYER. That's right. If you have an increase in the price level that's fine, but not if you have an increase in the rate of growth in the money supply or some stimulus like that. You won't have a determinant process.

MR. STOCKTON. You can still produce a series of shocks for that model that cause the unemployment rate to change and to create in essence a series of temporary gaps, which I think could move the inflation rate.

MR. MEYER. The point here is that I think it would be dangerous to throw away a disequilibrium mechanism that underlies the inflation/wage dynamics without having anything to replace it. That's my concern. The issue is not the nature of the wage/price dynamics but what the critical value of that is that gives rise to the process. And, of course, there's a lot of uncertainty about that. But that's why I thought the simulation was very interesting. Actually, it was a bit surprising that if you put in a NAIRU that is a percentage point below the staff estimate, the qualitative story was not that different.

MR. STOCKTON. I would just say the reason for that in part is that we see the growth of structural productivity as requiring some increase in interest rates eventually. That is not obviated by a low NAIRU. That is still there producing potential inflation if the funds rate is held at its current level.

MR. KOHN. I think there are two sources of upward pressure on prices in this low NAIRU case, aside from the fact that the current unemployment rate is a tiny bit below even the low NAIRU. One is the depreciation of the dollar. The assumed depreciation of the dollar is a pretty powerful inflationary force in these simulations partly because it just continues on and on and on. It's powerful enough to raise the NAIRU by 1/4 point and probably a little more; we

rounded down to get that 1/4 point. So that's one thing that produces upward pressure on prices. I suspect another thing is that there is some cumulated pent-up pressure here in the sense that real wages in the past haven't quite caught up with the increase in productivity. So, workers haven't realized all the gains of the productivity increase and as a consequence if productivity stopped growing or stopped accelerating and the NAIRU were lower, the labor force would end up getting a little more in real wages. And that, at least for a while, would put some upward pressure on prices. So I think we have some pent-up real wage increases and also some further depreciation of the dollar in here producing this uptick in inflation.

CHAIRMAN GREENSPAN. The crucial assumption here is that the second difference on productivity goes to zero.

MR. KOHN. Actually, I think it could occur if we put the third derivative negative. That is, productivity could still be accelerating but if it were accelerating more slowly over time, the same mechanism would work slowly.

CHAIRMAN GREENSPAN. I grant you your algebra. [Laughter]

MR. KOHN. I did have a simulation run this morning with the optimistic assumptions on the supply side--a low NAIRU and accelerating productivity--and no depreciating dollar. And that is enough to stop inflation from rising, at least for a number of years. But we need all three to stop the inflation rate from rising here.

CHAIRMAN GREENSPAN. President Poole.

MR. POOLE. My instinct is that in a model that runs off the interest rate--there are no monetary quantities pinned down by this model, the policy assumption runs off the federal funds rate--the price level has got to be indeterminate. It just has to be, if you short-circuit the price-setting process by setting the NAIRU always equal to the current unemployment rate. It

can't be pinned down by expectations because expectations have to be pinned down by something that determines the price level.

MR. STOCKTON. Which is usually the monetary authority.

MR. POOLE. Which is usually the monetary authority. So, one really can't just run a simulation on the funds rate and short-circuit the wage/price mechanism.

CHAIRMAN GREENSPAN. If I may argue, the fact is that the unemployment rate can only go to zero and there is a gap. You can redefine a structure, which is the unemployment rate minus zero, as a gap and you'll get the same structural response that you'll get from a NAIRU model. In other words, a fall in the unemployment rate will create inflation even without advertence to the existence of the NAIRU in the model. It depends on what you specify the relationship of compensation to. If you just put it literally at the unemployment rate with some coefficient, you'll get the same response. You have to. The only thing I am arguing about is that where you put the NAIRU relative to the unemployment rate alters the extent and the rapidity of the response, but not the sign. And that is what concerns me with this type of forecast in which I think the direction has to be right, but the order of magnitude is very crucial to how we respond to it monetarily.

MR. POOLE. Clearly this is a pretty complex discussion about the model's properties under different assumptions.

CHAIRMAN GREENSPAN. But if you think about what our problems in monetary policy formulation are, regrettably it does get down to this level because we're forecasting the future. And how the future will respond depends on how we define the existing structure that is driving the interrelationships in the economy today. And I think it is very important to be clear on where we as a group believe those relationships are.

MR. POOLE. All I'm saying, Mr. Chairman, is that I think there is a different possible conception of how these relationships work, which I don't have fully worked out in my mind. I have a sketchy idea, and I don't think it all has to flow through this mechanism.

CHAIRMAN GREENSPAN. Clearly there are alternate means of doing this. I was merely commenting about the suggestion that when you eliminate the NAIRU, the wage rate and inflation become indeterminate. I don't think that's right; that's all I'm saying.

MR. STOCKTON. I don't know whether David Reifschneider would know the answer, but I'm sure he could produce an answer for us. Take a wage equation, Dave, in which in essence there is complete hysteresis that says last period's unemployment rate is this period's natural rate. Is there a determinate inflation rate in the model?

MR. REIFSCHNEIDER. No, I don't think there is unless you pin down--

CHAIRMAN GREENSPAN. Pin down? Well, the expectations become a function of that relationship.

MR. POOLE. No, I think there is another way of doing it. One way would be to pin down expectations by an assumption about the response of monetary policy. But if you don't pin that down because you are specifying monetary policy in terms of some--I'll just say "arbitrary"--federal funds rate, then that doesn't solve out.

MR. STOCKTON. That is absolutely true.

MR. MEYER. I think we are making this discussion more complicated than necessary. We are not saying, "Let's throw away this whole wage dynamics model," but rather the question is what is the value of the NAIRU. That becomes very important. Nobody could dispute that.

CHAIRMAN GREENSPAN. President Jordan.

MR. JORDAN. I don't know if this is going to be helpful or not! [Laughter] Instead of talking about the unemployment rate, which is a highly visible, highly politicized figure, I was going to cast the question slightly differently. Once a month people in a government agency go out and take a snapshot of the inventory of individuals who are counted as willing to work--they did something to try to gain employment--but were not working. That inventory is about 5-1/2 million people. There is a lot of churning in that inventory, a lot of ins and outs. We get all sorts of other information but we look at that number of 5-1/2 million--and the total stock is growing by about 2 million a year--and we say, "Well, that number of 5-1/2 million is too small." We think technology--search engines, search techniques, or efficiencies of all sorts in information communication--has moved down the inventory of many items that are needed for building cars. But you are implying that this inventory of people not getting a paycheck needs to be up around 7-1/4 million, otherwise the prices of goods rise, or rise at a faster rate. Without repeating what you already said, draw me a connection that tells me that the inventory of unemployed individuals needs to be 7-1/4 million instead of 5-1/2 million people.

MR. STOCKTON. You have recast the question, but it involves a gross correlation in the data that Larry was pointing to--the GDP gap and the unemployment rate and the acceleration of prices. I would argue that our downward revision to the natural rate of unemployment--from the 5-3/4 percent or so that we had a number of years ago to 5-1/4 percent now--reflects our belief that some of the forces you just described are indeed at work in the labor market. That is, we can operate now with a thinner margin of excess capacity, in some sense, that reflects this churning because of more efficient job search techniques, more use of temporary help, and a variety of other factors that in fact have made the labor market more efficient. At a macro level, all we are really asking, in terms of this pool of labor, is whether in

the past a certain pool has been associated with an acceleration of wage and price inflation. And that's all these NAIRU estimates are really about. Or we can recast the question in terms of a slightly more comprehensive measure of labor market slack. The uncertainties that we show in those confidence intervals are just another reflection of the fact that there is a lot of looseness in that relationship, which probably reflects some of the effects that you are talking about--some of which may prove temporary and some of which may prove permanent. We have made our best assessment as to how much of that we think is likely to be permanent and how much has been temporary. But, obviously, there is room both for disagreement and considerable room for uncertainty.

CHAIRMAN GREENSPAN. President Parry.

MR. PARRY. Dave, the Greenbook mentions that core consumer inflation will be boosted this year by higher energy prices. I assume that next year, as energy prices come down according to the Greenbook forecast, core consumer inflation would be reduced. Could you give me some idea of the size or the precise effects of that on the core consumer inflation rate?

MR. STOCKTON. Roughly speaking, depending on the particular model that we look at, we think between 0.3 and 0.4 of the acceleration over the past year could be attributed to the indirect effects of accelerating energy prices. Then, in 2001 when those prices retrace, we get some of that back, which is part of the reason why in our forecast we see a more pronounced acceleration in core inflation this year and not much further acceleration next year, despite the fact that the unemployment rate moves up.

MR. PARRY. To try to understand what is happening to core inflation, I think it’s important to make those adjustments because, when the effects of energy prices are factored in, it looks as if we have a really significant acceleration that begins in 2001.

MR. STOCKTON. The acceleration is a much steadier upward process than one sees in our forecast, which might give a slight impression that things are topping out a bit in 2001.

MR. PARRY. That's exactly my point. Thank you.

CHAIRMAN GREENSPAN. Governor Gramlich.

MR. GRAMLICH. More on this NAIRU issue: First, I assume that Don Kohn is going to talk about Chart 7 in the Bluebook. I guess I am one who does not want to throw away the whole NAIRU model, but I do wonder about the estimates. I'll point out two things about Chart 7. One is that the NAIRU there is about 4.6 percent, so it is still above the unemployment rate we have now. Looking at the chart in the lower right-hand panel, it looks as if that difference does not matter all that much--compared to the baseline--for growth in PCE prices. So I think the other factors Don mentioned may enter into this analysis more than I had thought. One of those--and now I'm going to switch to Chart 14, presented by Larry Slifman--is that if we look at what's going on with unit labor costs in the projection, there is actually more kick from the drop in productivity than from the rise in wages. I probably should have recognized that, but that chart made it a little more vivid than I was aware of. So let me ask the parallel question on that. How sure are we of that? What is the model used there? What's going on?

MR. SLIFMAN. As for how sure we are, the answer is our usual answer: There is a wide range of uncertainty. The model that we use, as you probably know, is the so-called stock adjustment model for the demand for labor. So our view, as I noted and as we said in the Greenbook, is that even though output growth decelerates, hiring will continue, as firms that right now are running with very stretched work forces try to get their work forces to more preferred operating levels. That is the underlying logic. How confident are we that that's what is going to happen? Well, obviously, there is a wide range of uncertainty around this cyclical

component of our productivity projection. It could also be the case that we're too pessimistic about underlying structural productivity growth, particularly total factor productivity, which could give us some additional boost to overall labor productivity.

MR. GRAMLICH. And this is a period where we still have a lot of investment coming on stream?

MR. SLIFMAN. Yes.

MR. GRAMLICH. And an increasing share of it is high-tech.

MR. SLIFMAN. Yes. The slowing in overall labor productivity is all happening, in an accounting sense, as a slowing in total factor productivity. The capital deepening component is still surging ahead because we are at such high levels of investment.

CHAIRMAN GREENSPAN. Vice Chair.

VICE CHAIRMAN MCDONOUGH. In his comment a few moments ago, Don Kohn pointed out the degree to which this projection also depends on the model's forecast of a fairly significant depreciation of the dollar. The first quarter should remind us that the appetite of foreigners for investing in the United States seems to be huge. I doubt that anybody in this room is more frightened about the current account deficit than I am. But it is not at all clear to me that the deficit could not grow to 4-1/2, 5, 5-1/2 or 6 percent of GDP and we could still maintain a considerably stronger dollar than in the model. There might still be enough people outside the United States who think this is a much more attractive place to invest than the emerging market countries—or, heaven knows, Japan or even Europe with its structural problems. That is just another area of uncertainty on top of the uncertainty about the NAIRU that makes one rather humble about the reliability of the forecast. I must say that I commend the attitude of this discussion with respect to just how wide the confidence intervals are.

MS. JOHNSON. If I might just put a footnote on that: From the point of view of, say, Chart 7 or some of the others, the comparison of the baseline to the alternative that is being depicted is, loosely speaking, independent of what we've assumed about the dollar. How much difference the alternative makes to the baseline is what those charts illustrate. The issue of the baseline path that we put in for the dollar arose because to get a longer-term view--asking the model to extend itself in time--requires that it not encounter explosive developments. The model just doesn't behave. And given the parameters driven by history, we have to put in a sizable dollar depreciation to meet that, if you will, computing criterion. I don't dispute anything Don said, but in thinking about the alternative versus the baseline--the aspect the charts focus on--what we had to put in to get the model to resolve the current account problem is really irrelevant.

CHAIRMAN GREENSPAN. I think a crucial element in here, which carries through to a lot of different areas, is whether we are still to a significant degree involved in technological expansion. If so, the ex ante rate of return on new facilities is either high or still rising, and it does two things. It engenders a very large increase in capital investment and capital deepening which, other things equal, moves unit costs down. But at the same time it attracts foreign investment to finance the current account. In the simulations I suspect we would find that if suddenly we took that implicit ex ante rate of return down a few notches, it would create some truly awesome imbalances. In a sense it’s that propensity to invest here that I think is a really crucial issue. And it’s not only foreigners investing here. Just look at the backlogs of capital investment. It is really impressive at this late stage in the business cycle--more than we may have even remotely imagined. President Broaddus.

MR. BROADDUS. Dave, in light of this discussion, it might be helpful if you could just refresh our memories about your estimate of the NAIRU as it is now and the kind of confidence interval you have around it. I presume there's an upside as well as a downside risk to it, despite the recent experience. It might be helpful to have that benchmark.

MR. STOCKTON. Our current point estimate is about 5-1/4 percent. As I indicated earlier, that is down from the 5 3/4 percent to 6 percent range we had before. We do see upside and downside risks to that estimate. In the paper by Flint Brayton and David Reifschneider circulated to the Committee through Don Kohn a few weeks ago, I think they reported a reestimate of their wage and price equations. Their work suggests a NAIRU of 5-3/4 percent even with the current set of data they've been looking at. They provided in the paper a variety of reasons for why we might have experienced this particular combination of low unemployment and low inflation. Now, we have other judgmental models that produce lower NAIRUs. And we feel relatively comfortable with a number of the stories that, as I indicated earlier, probably have helped to lower the natural rate. But the risks are not one-sided either.

CHAIRMAN GREENSPAN. Okay, can we start the Committee discussion? Who would like to begin? President Parry.

MR. PARRY. Thank you, Mr. Chairman. The Twelfth District economy has continued to expand at a rapid pace. The employment growth rate of 3.6 percent so far this year is above the national rate of 3 percent. Employment growth was especially rapid in April and May, with the surge in the latter month largely due to the hiring of temporary Census workers. However, unlike the rest of the nation, the Twelfth District gained private sector jobs in May as well.

The California economy has been growing a bit faster than the rest of the District and its 5 percent unemployment rate is near a 30-year low. Among the other states, Arizona leads the nation in the percentage growth rate of jobs over the past year. The state's manufacturing sector has performed especially well this year, with strong job growth in high-tech equipment manufacturing adding to the state's ongoing aerospace expansion. More generally, makers of semiconductors and related equipment in the District have been expanding employment and output as demand for District exports has surged. The key exception is exports of Boeing aircraft from the state of Washington, which fell further, though continued rapid expansion of the computer services sector has kept growth solid in the Seattle area.

In recent months tentative signs of slowing have emerged in residential real estate markets. The pace of home sales, construction, and price appreciation has slowed in states besides California, where demand remains very strong relative to supply and housing starts and home prices have continued to rise rapidly. On the commercial side, conditions also have remained quite tight in California. The most extreme example is the San Francisco Bay area. In the first quarter, the office vacancy rate was only 1 percent in San Francisco and in the Silicon Valley, and lease rates jumped 25 percent or more in that quarter alone.

Turning to the national economy, recent developments have been somewhat encouraging. The pace of economic activity apparently slowed to a moderate, more sustainable rate in April and May. And core inflation returned to the moderate rates that had prevailed prior to the spike in March. It is far too early to conclude that the economy has gone into a sustained slowdown. However, recent developments provide room for optimism that inflationary pressures can be contained, perhaps with less monetary policy tightening than seemed likely when we met in May.

With regard to our forecast, we have revised down our estimate of real GDP growth in the second quarter by a full percentage point to 3-3/4 percent. We expect real GDP to grow 4-1/4 percent this year and 3-3/4 percent next year. This deceleration is due mainly to tightening financial conditions. We have assumed that the funds rate will be unchanged at this meeting but will rise another 25 basis points in August, and that equity values will remain unchanged in real terms through the end of next year. These two factors are expected to have especially large effects on consumption and housing. Despite this slowdown, tight labor and product markets can be expected to put upward pressures on core inflation, even after allowing for accelerating structural productivity. Higher oil prices have boosted overall consumer inflation so far this year and also have affected core inflation to a lesser extent. Like the Greenbook, our forecast assumes that oil prices will decline from the third quarter of this year through the end of 2001. If that occurs, it is likely to reduce core inflation a bit next year and partially obscure an upward trend in the underlying rate. We expect the core PCE price index to increase 2.1 and 2.2 percent this year and next, well above last year's 1.5 percent rate. Overall, my concerns about inflationary risks have lessened somewhat since we met in May. But I would still say that going forward the balance of risks for inflation is pretty clearly on the up side. Thank you.

CHAIRMAN GREENSPAN. President Moskow.

MR. MOSKOW. Thank you, Mr. Chairman. Since our May meeting, the number of reports suggesting slowing in activity seems to have increased, but our assessment is that the Seventh District economy is still quite healthy given that the slowing has been from high levels of activity. Housing industry contacts describe activity as still strong but slowing. Retailers indicate that sales have been below expectations in part due to unfavorable weather. Contacts

report slowing in sales of building materials but also tell us that sales of appliances, electronics, and home furnishings are still strong, reflecting the typical lags in the housing markets. Light motor vehicle sales have come down from the first quarter's record pace but are still at very high levels, with the auto makers currently estimating that June sales will be in the 16-1/2 million to 17 million unit range.

In terms of manufacturing, the latest Chicago Purchasing Managers' Survey results show activity picking up in June, with both production and orders moving higher. This information should be treated confidentially since it won't be publicly released until this Friday. That report also suggested some modest easing in price pressures from May and indicated that factory employment declined in June. A national temporary help firm headquartered in our District reported that demand for temporary manufacturing workers was definitely weaker than a year ago, particularly in the Midwest, although overall demand for workers was still up. More generally, our labor markets are still very tight.

When giving speeches lately I'm starting to get almost as many questions about high gasoline prices in the Midwest as I am about interest rates. Special factors seem to have contributed to large but transitory price increases. Inventories were low to begin with, particularly for gasoline that met the area's new reformulated gas requirements, and there were a couple of pipeline disruptions in the Midwest. And while few seem to mention this, consumer demand for gasoline seems to be stronger than had been anticipated. Not unexpectedly, the increase in gas prices has sparked considerable political interest. The State of Indiana has suspended its 5 percent gasoline sales tax, effective July 1, and the Governor of Illinois has called a special legislative session to consider doing something similar.

Last week the Chairman attended our board meeting at which our Chicago and Detroit branch directors discussed the impact of e-commerce and the Internet on their companies and their industries. This was a follow-up to a similar discussion that we had at our June 1999 meeting. And this year we will be compiling and distributing a summary to you, as some of you requested.

The consensus among our directors was that there has been a definite acceleration in productivity in their industries over the past three years as a result of investment in information processing equipment and utilization of the Internet. Their firms have shifted their focus toward B2B and away from B2C applications over the last six to twelve months. In fact, it was reported that the number of online marketplaces nationwide has increased from 600 to 1800 over the past year. Most firms, especially the small and medium-sized companies, are just beginning to scratch the surface in terms of realizing the potential of the technology to enhance productivity and improve operations. One of our directors told us about a new service that his company offers that would have been unprofitable without the Internet. They now make available to any used car buyer, whether a consumer or a dealer, a complete report on the history of any vehicle in the system for a $10 or $20 fee. That report includes information on major accidents, retitling of the vehicle as a result of its previously having been totaled or been in a flood, and so forth. There are about 35 million used car transactions in the United States annually and about 10 percent involve cars that had major mechanical or structural flaws. This new service is based on information the company already collects, which tracks all motor vehicle titles and registrations in the country; the data are maintained on line and linked via unique vehicle identification numbers. The new service has grown rapidly and now has 11,000 participating dealers and 112 other Web partners. So, in summary, our directors agreed that the

new technology has allowed them to lower costs and provide new services. Although they found it difficult to quantify the value of these innovations, they are convinced that they are very significant.

Turning to the national economy, our outlook for real GDP growth and core PCE inflation is essentially the same as that in the Greenbook, although our assumptions are somewhat different. The intermeeting data suggest a modest slowing in the pace of economic activity, but I share the Greenbook's caution against giving those data too much weight in the current projections. If the next few months show similar signs of moderation, then that would be significant.

Last week we convened a group of academic and business economists at our Bank to discuss the current outlook. The academics argued that monetary policy had been overly expansionary throughout 1999 and even perhaps earlier. In their view, the current stance of policy is only mildly restraining and is insufficient to remove the previous policy stimulus. On the other hand, some of the business economists felt that monetary policy is currently quite tight and is largely responsible for the recent softening in the reported data. A common element in each group's discussion was uncertainty about the FOMC's current inflation goal. They felt that the Committee's recent shift in focus to the lower PCE inflation measure instead of the consumer price index had complicated matters. But regardless of the measure used, our core inflation forecasts are all tilted upward, and that's troublesome. My own view is that inflation should be lower than our current forecast and that we need to articulate that clearly as we contemplate further actions.

CHAIRMAN GREENSPAN. President Minehan.

MS. MINEHAN. Thank you, Mr. Chairman. Economic activity in New England continues to be vibrant. The region's job growth, though below that of the nation, is above its long-term trend, and unemployment in the area is the lowest of any region in the country. Prices as measured by the Boston CPI rose in the latest month at a rate better than a percentage point higher than prices for the country as a whole, driven by shelter and fuel costs. In addition, house prices continued to rise more steeply in New England than nationally, with Vermont leading the regional pack with a 10 percent increase between 1999 and 2000. So the question we've been asking is: Where is the slowdown? Locally it seems more evident in the anecdotes than in the data. To be sure, the manufacturing sector continues to lose jobs regionally. Export growth of manufactured goods, which had accelerated quite a lot in 1999, flattened over the year-end and the beginning of 2000. And studies at the Bank indicate that the region's defense intensive manufacturing businesses appear to be losing market share. On the anecdotal side, one of the Bank's small bank directors reported just last week that auto sales in New Hampshire seem to have fallen off a cliff. That is about the only anecdote of slowing that I have right now.

As for anecdotes on the other side, contacts tell us that it remains difficult to find workers of almost any type. Planned wage increases are reportedly in a bit higher range than earlier, especially for high-tech workers, and we have started to hear more frequent reports of 10 to 20 percent increases for various classes of workers. Seasonal inflows of workers--college students, for example--have not eased supply constraints as they had in previous years. Rather, as one temporary staff firm owner reported, "All the new college graduates were hired even before they graduated, and that's the first time I've ever seen that."

On the national scene, we agree with the Greenbook and just about everybody else that there is a bit of slowing in the works, including slower consumption growth, driven by the

interest-sensitive sectors, especially housing, as well as sideways financial markets. We talked about uncertainties in the forecast before, and it was a daunting conversation to get into, but there is a range of uncertainty about a lot of things. We have a range of uncertainty about trend productivity, as well as the NAIRU and the implications of the trade deficit for the dollar. If we put a lower rate of trend productivity growth and a lower NAIRU into what I'm sure is a simpler model than the one used at the Board--and assume no further monetary tightening than we have already--we get a slowing of real GDP in 2000 to about 4 percent. That gives us a slowing to 3-1/2 percent in the second half of this year and growth at about that same rate in 2001. However, under those assumptions, unemployment remains low and inflation, whether measured by the CPI or the PCE, picks up. Thus, our sense of the appropriate path for monetary policy involves further tightening, though probably not as much as reflected in the Greenbook, largely due to our lower estimate of the NAIRU.

Now this forecast, like any forecast, has risks associated with it; but we think the upside risks are predominant. First, there is some expectation of a slowing in PDE investment. And while such slowing makes some sense in the context of the model, I think there certainly are some risks that business investment will grow at a faster pace than we have in our estimates. Even more importantly, there is a reasonable possibility that the signs of slowing in the second quarter are a statistical aberration borne of the mild winter and seasonal adjustments that work in the direction of making current data look weaker than they really are. Perhaps, as some private forecasters have noted, it would be sensible to keep in mind that if the first-quarter and projected second-quarter numbers are averaged together, the growth rate for the first half of the year would be above nearly all estimates of potential GDP. That measure may be a better reflection of the current momentum in the economy than the very latest high frequency

observations. So the issue to me is not whether the economy is slowing now--and goodness knows we want that to happen--but whether this is simply a pause or the beginning of a pattern. Our model and the Greenbook forecasts suggest that it's a pattern. But in the last two years we've seen second-quarter pauses. Thus, it is probably wise to be a bit agnostic about whether the long awaited slowdown is finally here. And if one is agnostic about that, then there may be room for a greater level of concern about the up-creep in the price data and about the downside risks that might be associated with less than vigilant monetary policy at this point.

CHAIRMAN GREENSPAN. President Guynn.

MR. GUYNN. Thank you, Mr. Chairman. I would now characterize economic growth in our Southeast region as moderately strong, with some emerging signs of slowing. Let me first indicate what is different and what feels different from the situation at the time of our last meeting. The most obvious and persistent signs of slowing are in our residential construction industry. That industry is extremely important to our region. In fact, two of our states, Florida and Georgia, are among the five states that produce 40 percent of the nation's new housing units. Both the data and anecdotal reports from directors and other contacts confirm a slowdown in the pace of construction, which is most pronounced at the low end of the market. Other industries in our region that feed off the regional and national housing industry--carpets, appliances, and building materials, for example--are also feeling some impact from the slowdown in construction. While less of a trend at this point, our contacts are now also reporting some noticeable falloff in consumer spending for big ticket, high-end products.

Our financial institutions are telling our lead Bank examiners that their best days in terms of credit quality may be behind them and, consequently, there are more reports of tightening credit standards and more cautious and less accommodative lending. One banker

noted that fortunately there seem to be few signs of stupid competition. There has been a noticeable pullback in lending to marginal companies, including real estate deals where the tenants are to be dot-com companies. In contrast to these signs of some moderation, other sectors where we continue to see good to very good growth include tourism, most manufacturing industries, including auto makers and auto suppliers in our region, ship building, oil production, and commercial construction.

While our regional employment growth continues to outpace the nation's and our labor markets remain tight, we are getting a number of reports of some emerging relief in the sector where we first saw tightening, the construction trades. My developer and builder contacts say that subcontractors who were often too busy even to return phone calls are now beginning to call in search of future work. The new tightest area for skilled workers seems to be nurses. The points of greatest price pressure remain the same. Clearly, health care costs, including pharmaceuticals, are escalating at a faster pace and that is expected to continue. And prices of petroleum-derived products and transportation surcharges have clearly risen. Basic wage increases are still generally constrained, although I continue to hear many people say that the soft costs of various perks and concessions to workers are probably not being fully measured.

On the national front, I see some of the same early signs of moderation. Those appear to me most obvious in residential construction, where the pace has leveled off or even slowed. Two weeks ago I had occasion to make a presentation and to stay for a candid roundtable discussion among the directors of the Harvard University Joint Center for Housing Studies, which is part of their School of Government. That group of some 50 CEOs and other top officials of the largest national homebuilders and their suppliers reported a marked slowing

in the pace of building and future commitments to build. Again, the slowing is most evident at the low end of the market. That group also reported some evident relief in the availability of labor and the perception of some new buying power over their suppliers of construction materials.

I'm also encouraged to see some evidence that consumer spending is slowing, at least somewhat. But if income gains and confidence remain strong, and if asset values do not erode further, it is not likely that consumer spending will drop precipitously. Business investment spending, at least for equipment including computers and telecommunication equipment, is likely to remain strong. And the relatively positive outlook for most of our trading partners suggests to me that demand from the foreign sector could offset some of the slowing in domestic demand. For me, as others have already suggested, the key questions today and tomorrow are whether the tentative signs of slowing we see are likely to persist and where we are in terms of the lagged response to the tightening we've put in place over the last year. It's my sense that the 50 basis points of tightening that we did at our May meeting got people's attention. A moderation in some sectors and some less accommodative financial conditions are now showing through, as some of our models had predicted and as we had hoped to see.

While I remain concerned about the apparent upward drift in most measures of core inflation, I continue to think we've been at least modestly preemptive. Moreover, our Bank's latest modeling work suggests that we should get a significant further bite from the tightening we've put in place. While there is probably a better than even chance that we'll need to tighten at least a bit more, given the upside risks, our staff work does not indicate the need to take rates quite as high as the Greenbook suggests or to hold them so high for so long. I think we could reasonably stand pat tomorrow and not tighten further, allowing us time to get a better read on

where policy is, so long as we don't inadvertently signal that we've concluded tightening and that our work is done. Thank you, Mr. Chairman.

CHAIRMAN GREENSPAN. First Vice President Stone.

MR. STONE. Thank you, Mr. Chairman. Some signs of slower growth have begun to emerge in the District's economy since our last meeting, most notably in manufacturing. The region's manufacturing activity slowed sharply in June based on reports concerning both shipments and new orders. Other sectors where modest signs of slowing have occurred include retail, banking, and both residential and nonresidential construction. Employment growth has also slowed recently. Nevertheless, the District's economy overall continues to operate at a high level and labor markets remain very tight. Unemployment rates in the District are now slightly below the national average. Anecdotal evidence suggests that tight labor markets are increasingly perceived by businesses as a constraint on growth. Our District's ocean resort areas, which normally rely on U.S. students to fill summer job openings, have needed to bring in foreign workers and to recruit senior citizens to offset the shortage of available students. Businesses continue to report upward pressure on wages. In addition, increases in health care costs are often mentioned as an even greater concern. Manufacturers continue to report rising input prices, but many still note the inability to pass on these rising costs because of competitive pressures. Some manufacturers, however, have been able to put through what they call selected moderate price increases and some have reported adding surcharges to their base prices based on specific input cost increases. Other manufacturers have responded to higher input prices by searching for lower cost suppliers, primarily through the use of the Internet, as a way to maintain profit margins.

Comments from business people around the District suggest that good economic times have made people less wary about the riskiness of some business ventures. A principal with a venture capital firm reported that there are still plenty of investors looking to put their money at risk and plenty of entrepreneurs, primarily in technology, looking to take investors' money. But, there is at least some greater attention being paid to how those ventures might become profitable. Our contact said he believes the days of irrational exuberance are over and now we just have exuberance. A banker noted that he believes the economy is near a turning point based on his investment index. He observed that when one sees doctors and lawyers investing in and opening new restaurants, a slowdown is usually around the corner. [Laughter] Other bankers have noted that business borrowers are more frequently falling short of their revenue targets and profit projections than they were a year ago. Despite these concerns about risk-taking and despite recent signs of slower growth, most businesses are optimistic that the region's economy will continue to grow at a good pace during the rest of the year.

Turning to the nation, our economic outlook for the remainder of the year and for 2001 is similar to the Greenbook's in terms of real GDP growth and the unemployment rate. We are slightly more optimistic about core inflation but agree that monetary policy will have to tighten further before we are through. The signs of slower growth in the recent monthly economic data for the nation are encouraging but not conclusive. In past years in this expansion we have seen signs of a slowdown and then the economy has rebounded and grown very strongly again. So, it's too early to say that the economy is definitely slowing to a sustainable pace and that inflationary pressures are abating. Most measures of inflation over the past twelve months are higher than they were a year ago, suggesting that we ought not be complacent that inflation will not accelerate. What's more, the most recent increases in oil and gasoline prices

will mean higher CPI and PPI inflation figures in the months ahead. In my view the risks of greater inflationary pressures, potentially leading to expectations of increasing longer-run inflation, remain our primary concern. Thank you, Mr. Chairman.

CHAIRMAN GREENSPAN. Thank you. President Jordan.

MR. JORDAN. Thank you. The best way to summarize the sentiment of executives of older manufacturing industries in our region is “hostile.” Following the surprisingly strong demand that we saw in the second half of last year and the first quarter of this year, it was probably inevitable that the inflection from that, when it came, would catch at least some manufacturers by surprise. And they are embarrassed, one might say, about having extrapolated a pattern that was clearly unsustainable. As I’ve noted before, manufacturing employment in our District is much higher as a share of total employment than the national average, and that in turn is concentrated primarily in motor vehicles and their suppliers. So when truck and auto sales are rising and rising rapidly, order books are filling up and everyone is happy. But when truck sales start to decline first--and they have--and then auto sales ease back somewhat, as they now have, inventories rise and new orders are weaker. Production levels in the current quarter are going to be reported out as quite good, probably at record highs. But manufacturers are very grumpy about the order book outlook for the second half of the year. Steel production in the current quarter and the entire first half was very high. But in that industry inventory levels also are high and rising, and weak incoming orders together with those inventories are putting some downward pressure once again on steel prices. A nationwide distributor of carpets and other floor coverings has reported that sales in this quarter are running about 8 percent below sales in the same quarter a year ago. That’s in line with what Jack Guynn was saying about housing-related industries. A banker claims that he’s seen a noticeable slowing in commercial loan

demand and he expects overall growth of earning assets to be very slow to nonexistent in the second half of the year.

Generally, labor markets in our region were described by our contacts as less tight this spring than previously. A survey of tourist destinations around the region, notably the amusement parks and other places that typically hire thousands and thousands of young people--or increasingly retirees--to work during the summer months, said that they did not have difficulty hitting their hiring targets this year. They've stepped up their programs for recruiting foreign employees; up to about one-fourth of their total summer labor force is comprised of foreign students they bring in for the summer. It's now reported that one can hire construction workers in Ohio. They are available as long as the employers speak Spanish. Another director reported that all the horse farm workers he sees in Kentucky are Spanish-speaking. We have flexible labor markets!

Let me turn to the national economy. A year ago at this time, getting ready for the midyear meeting, I was bothered by a general lack of caution on the part not only of bankers but their customers--though the bankers would usually attribute that attitude to their customers. We would ask the bankers how well positioned their customers were for an upward shift of 100 or 200 basis points in the yield curve. They said their customers' response would be, "You don't get it. Interest rates can never go up again because inflation can never go up again because we have a new economy a new era" and so on. And even if the banker made a sincere effort to instill a bit of balance to the customers' perspective of the risks that were involved, the message was difficult if not impossible to convey. I don't sense that at all now. I think we have delivered a very effective and important wake-up call to people that there are various risks associated with their business behavior and their household behavior. I think that is healthy and

I believe it will help to sustain this expansion. Even the post May meeting commentary about how high we might have to see rates go, as wrong as it turned out to be, was constructive to this process of rebalancing people's assessment of the risks. People have learned that stock prices can go down. They have learned that IPOs can fail and that even dot-com companies can go out of business. Some businesses have learned that sales can decline. And we are probably going to see that workers will learn that layoffs can and do occur. All of that I think is healthy to the kind of decisionmaking that we ought to be seeing.

The surge in nominal spending growth in the second half of last year, which carried into the first quarter of this year, was not forecasted and was probably unforecastable. Unfortunately, we may have accommodated more demand than we would have liked. But it didn't continue. At our May meeting it was only conjecture that the acceleration might have been moderating, but the data in the weeks since the May meeting have gone in the direction at least of suggesting that we may have had an inflection there. While I agree with Cathy Minehan's comments about not over-interpreting the data of recent weeks or the couple months of the spring, they do at least point in a slowing direction and we ought to be aware of that. And the anecdotal stories that I'm hearing in my part of the country suggest that the second half is going to be quite a bit weaker. As we know, surprises can have negative signs attached to them as well as positive signs.

Let me make a couple of comments on oil prices. Even though oil overall is a smaller percent of our GDP than it was 25 years ago when we were hit by the oil price shocks, it's still a significant factor. When oil prices to any importing country go up, and go up so sharply, if the wealth lost to us in terms of trade is changed there are wealth redistributional effects internationally. But probably more importantly, there are redistributional effects within

our country--by sector, by industry, and certainly by region. The effects are not at all uniform. A couple of years ago manufacturers in our part of the country were quite happy with oil prices of $10 to $12 per barrel. In Bob McTeer's and Jack Guynn's Districts they weren't quite so happy with those prices. Well, the situation has turned around. Maybe it will turn around again; I don't know. But for the moment we are seeing a lot of dislocations that I think will take some time to work through the economy. Quite aside from the direct and indirect effects of energy prices are the effects on various price statistics. There are differing implications for consumption and production.

As for inflation trends, I suppose I'm not as worried as some of the commentators I've heard today seem to be that inflation is definitely on a rising trend. That may be because a couple of years ago I never believed that the core inflation rate was as low as indicated by some measures. We may have regretted that we didn't lock in a sustained lower inflation rate in an opportunistic way, but the domestic and international situation simply didn't allow for that. Nevertheless, the movement up may be simply a return to the kind of trend that was actually built in based on basic monetary fundamentals anyway. So I'm not as convinced that inflation is accelerating from where it is.

CHAIRMAN GREENSPAN. President Broaddus.

MR. BROADDUS. Thank you, Mr. Chairman. Like many others who have commented this morning, in looking at the regional information we've received since our last meeting I've tried to focus particularly on whether the District evidence is consistent with the national evidence that the expansion may be slowing a bit. And to some extent I think it is. But I have to tell you that the reports are still very mixed.

In order to get a closer look at residential construction activity, we contacted last week a fairly sizable number of real estate people and builders to see what they could tell us. And it does appear that residential sales and building activity may have peaked sometime earlier this year in our District. Several builders told us, as did the people you talk to, Jack, that they have projected a big drop in their firms' activity for the remainder of the year. But others told us that to date they have not experienced a substantial softening in demand. A couple said they still had more work than they could handle. And though I don't have good hard data on this, the anecdotal information I get on sales of existing homes is consistent with the national number released yesterday. Sales still seem to be fairly strong and prices are rising. In the nonresidential sector, one of our directors reported that he is undertaking a project on which the bids received were much, much higher than had been anticipated, mainly because the general contractors to whom they are talking can't find adequate subcontractors. So, that's the housing and construction part of it. Again, the reports are mixed and do not give us a very clear picture at all.

Probably the strongest evidence we have of diminished activity in our District is in sales of cars, furniture, and other consumer durables. From a number of car dealers we talk to and from our directors we have reports of weaker car sales--and in one or two cases, significantly weaker sales. But, as others have mentioned, it's very hard at this point to get a clear sense of whether this is likely to be a persistent decline or something more temporary, following the extraordinarily robust sales increases we had in the first quarter. Labor markets are still very tight in our District. Reported unemployment rates at the state level have drifted up slightly in some of our District states, so that may mean that the situation is not getting any tighter. But overall we don't have a sense of any real sea change in labor markets in our area.

My final comment on the region is that we've had a lot of reports that business people generally are much less optimistic now about near-term prospects than they were earlier in the year, due to all of the things one would expect--rising interest rates, real estate prices, and so forth. But I have the sense that sentiment could turn back up pretty quickly if we got a break on fuel prices. I think the rise in those prices is playing a large role in attitudes currently.

My views are similar on the national outlook. There are signs that demand may finally be moderating somewhat, but at this point I think we have to regard these signs as essentially very preliminary. It's not at all clear to me--and others have said this--whether the moderation is going to persist and we will see a decline in the underlying trend growth of domestic demand or whether it's just a temporary deceleration. In that regard, I think it's very important to remember that we had a 10 percent annual rate of increase in domestic final private purchases in the first quarter; and in a series like that, some offset in the next quarter would be expected. So, I think the Greenbook projection of real GDP growth at close to potential for the remainder of this year makes a lot of sense. And while the recent data may indicate that the risks to the projections of real growth may be a little better balanced than they were two or three months ago, I believe they are still probably skewed to the up side. In contrast to Jerry Jordan, though, what I see in the price data in a somewhat longer-term context is an emerging trend of higher core inflation and deteriorating prospects for inflation that I find worrisome. I certainly would acknowledge that we're not confronted with any kind of breakout in inflation yet. But as I see it, both the core PCE and the core CPI now appear to have moved to a higher underlying pace than in recent months. The baseline scenarios that we were discussing a bit earlier show that in a fair number of different scenarios--and in a couple of cases even with a significant further tightening in monetary policy--we get a continued increase in core inflation. Further

increases in trend productivity growth going forward may bail us out. But all in all my guess is that the risks on the inflation front are higher now than we've seen in some time. Thank you.

CHAIRMAN GREENSPAN. President Stern.

MR. STERN. Thank you, Mr. Chairman. As far as the Ninth District economy is concerned, the objective measures of economic activity remain very positive. Let me just give you one fairly familiar example of this. Over the past year employment gains have continued to be substantial; and unemployment rates in virtually all District states are at the same levels or lower than they were a year ago--and they were quite low a year ago. Furthermore, this has occurred with some sizable gains in the labor force. Other objective measures, whether we look at manufacturing, construction, or consumer spending, all remain quite positive. The anecdotal evidence is a bit more mixed, I think, and the doubts or concerns are coming principally from the business community. I would not characterize the consumers in this way, but a number of business people I've talked to recently have expressed some concern about financial market developments. They obviously know that interest rates are higher. They know the course that policy has been on. They know that equity values have leveled off and in some cases declined. I think that has injected a note of caution into parts of the business community that I at least didn't detect a few months ago.

As far as the national economy is concerned, it seems to me that the outlook for real growth remains at least satisfactory. For what it's worth, our VAR model predicts real growth of 3-1/2 to 4 percent over the next several years which, if anything, is a bit below the Greenbook forecast. We also calculate the probabilities of a recession with our VAR, and the probabilities are all very low. So, its take on the "hard landing" scenario is the same as that presented by Dave Stockton and Larry Slifman.

As for the inflation outlook, I'm not sure that NAIRU is the right framework for assessing that. I've been struggling with that concept and have been expressing some reservations about it for some time. It certainly has not distinguished itself recently and I'm not sure that it has distinguished itself much over the past 15 years or so. But I don't have another framework to offer at this point except to say that, presumably, what's going to happen to inflation over the next year or two is largely baked in the cake already, apart from whatever further sharp gyrations we may see in energy prices or something like that. What will happen to inflation over the next four to six quarters at least is largely baked in the cake and, though it may not be popular to say this, beyond that it seems to me that the money supply ought to matter increasingly. That may not have any unusual policy implications. That is, if one thinks about what rate of monetary growth is appropriate with this kind of economic outlook, the interest rate implications may be about the same as they are if one believes in the NAIRU framework. But I haven't worked out that exercise, so I suppose I have to leave that as a question rather than a conclusion.

CHAIRMAN GREENSPAN. President Poole.

MR. POOLE. Mr. Chairman, my anecdotal information from the Eighth District suggests that the situation is largely as it has been, except for some modest--and I emphasize modest--slowing in the housing sector. I found the reports from my contacts at FedEx and UPS interesting because both of them talked a lot with customers about their likely volume requirements in the fall, which is of course the busiest season for both firms. In each case they are expecting volume to continue very strong and, if anything, stronger than it has been. My contact at UPS said he believes that particularly in December UPS is going to be pressing on capacity. The company plans to work with the firms for which it ships goods in order to try to

move the shipping schedules up a bit, but UPS expects demand to be pretty vigorous. I heard the same sort of message from FedEx. My contacts from both firms also mentioned the pressures from rising fuel costs. FedEx has had a fuel surcharge in place for some time and sees no effect on its volume from adding that surcharge. Of course, these reports from both firms are confidential, but I was told that UPS is expecting to announce soon a fuel surcharge on its package shipments, a fee it has not as yet had in place.

Both firms emphasized the difficulty that they continue to have in finding entry-level workers. Although that situation is not new, it continues and, if anything, has become a bit more intense. My UPS contact gave me a really good sense of what this has meant at his firm. Most of the entry-level people, who sort packages in their hub locations, are part-time college students. In fact in Louisville, as some of you may know, UPS has an arrangement with the University of Louisville for classes to be held in the afternoon so the students can work in the middle of the night for four hours unloading and loading planes. The straight wages for these employees are probably in the neighborhood of on top of that for signing bonuses, attendance bonuses--if they stay employed with UPS for six months or whatever--and tuition reimbursement. So the wage costs that are not explicit--those not going out in the paychecks--involve supplements that have now risen to which I think is pretty amazing for people who are earning as the standard wage. And this same contact in Louisville said

to give you an idea of the labor force shortage that they are dealing with. I had a similar kind of report from FedEx. My FedEx contact said that they also are having problems signing up middle management employees. Finally, both firms expect their volume to continue to be very strong, both in their international and U.S. businesses.

Let me go back to our discussion of the NAIRU and make a few comments. Obviously, in a macroeconomic model, everything is simultaneously determined. So I want to start off by saying that I understand that. But I think there are two different conceptions of NAIRU that more or less have the causation running in opposite directions. The traditional NAIRU formulation views the wage/price process as running off a gap--a gap measured somehow as the GDP gap or the labor market gap. And the direction of causation goes pretty much from something that happens to change the gap that feeds through to alter the course of wage and price changes. I think there is an alternative model that views this process from an angle that is 180 degrees around. It says that in an earlier conception, either through a determination of a monetary aggregate or through a federal funds rate policy, monetary policy pins down the price level or the rate of inflation and, therefore, expectations of the rate of inflation. Then the labor market settles, as it must, at some equilibrium rate of unemployment. Where the labor market settles is what Milton Friedman called the natural rate of unemployment. But the causation goes fundamentally from monetary policy to price determination and then back to the labor market rather than from the labor market forward into the price determination. I certainly view the causation in that second sense. I think it is the willingness of the Federal Reserve to stamp out signs of rising inflation that ultimately pins down expectations of the price level and the inflation rate. Now, the labor market has been clearing at a level that all of us have found surprising. But I don't think that necessarily has any particular implication for the rate of inflation, provided we make sure that we are willing to act when necessary. As long as inflation expectations remain well under control and we are willing to move, I think that pins down the rate of inflation in an adequate way. I understand that everything is determined simultaneously, but I think there are two rather different directions of

causation that people have in mind. In the macroeconomic model used here, if we can count on some way to arbitrarily pin down the expected rate of inflation, we can then solve the model quite satisfactorily. Again, that's an assumption that one puts in the model, but I think it flows from the monetary policy that is being pursued. Thank you.

CHAIRMAN GREENSPAN. President Hoenig.

MR. HOENIG. Thank you, Mr. Chairman. Let me begin by noting that economic activity in the Tenth District is still very solid. Having said that, it is also true that we are seeing mounting evidence of slowing trends within the region. It starts with manufacturing, which certainly has slowed, with firms clearly reporting smaller usage of capacity. Our latest surveys of purchasing managers in the region--in the front range of Colorado--suggest that manufacturing activity is slowing fairly substantially, at least more so than the national average. Also, in some of the conversations we've had, business executives have indicated that some projects are being deferred. We are also seeing evidence that retail sales have softened. In addition, housing activity, which had weakened in April and May, is reported to have weakened in June as well. Nonresidential construction activity remains relatively strong, but many of the executives in that industry are telling me that a more cautionary attitude has emerged and that they are expecting some slowing as recent interest rate moves begin to have a greater effect on them. Our energy sector is benefiting from the current level of prices, especially the gas drilling area, which is fairly active. But in that industry, of course, there has been a downsizing from earlier periods, so it is harder to get skilled labor for drilling operations and, therefore, activity is coming up rather slowly. One   involved in gas drilling in a fairly significant way says that inventories are low now. Consequently, if demand were to

be strong as we go through the year, he feels there will be a surge in prices of natural gas as we move into the winter.

District labor markets still are tight. We don't hear quite the sense of urgency about that situation as before but labor conditions clearly are very tight. And price pressures are similar to what we've reported in the past: There are some efforts to raise prices but still a lot of competitive pressure holding them down. Our farm industry, especially on the commodity side, remains weak. But with recent additions to government payments, farm incomes will be steady overall.

Turning to the national scene, recent indicators, in conjunction with various developments in the District that I've mentioned here, leave me with the very clear impression that the economy will slow and that recent inflationary pressures should ease over time. Specifically, I have revised down my outlook for growth this year and next and am now projecting about 3-3/4 percent for GDP growth over the forecast horizon. That is only slightly below estimates of trend growth. However, unlike the Greenbook, we get those projections with a fed funds rate that remains at its current level. There are a number of reasons for this likely slowing, in my view. One is the moderation in stock market gains; another is the increase in real interest rates. Certainly, the elevated oil and gas energy prices are a factor. And most importantly from my perspective are our recent increases in the funds rate and more restrictive monetary policy. While the evidence we are seeing is still mixed, I think we do have more hard statistical evidence of a slowdown. Also, I am hearing more views from business people, as in the examples I cited earlier, that higher interest rates have led to a slowdown in economic activity and a change in business sentiment that I think is important.

Regarding the inflation outlook, I am aware that the effects of our previously accommodative monetary policy and the passthrough of oil prices to the non-energy sectors are continuing and will put some upward pressure on core inflation in the near term. But I am also convinced that we will not necessarily see an acceleration in core inflation because we have moved to a more restrictive policy over this past year and that tightening has not had its full impact on the economy as yet. As long as we remain restrictive for some period of time, the increase in inflation should be temporary, I think, rather than permanent. I'm looking for inflation this year to be under 2 percent, as measured by the core PCE, and to rise somewhat, of course, as we go into next year. But I don't see an acceleration in inflation. I think we should be mindful of that as we contemplate policy. Thank you.

CHAIRMAN GREENSPAN. President McTeer.

MR. MCTEER. The economy in the Eleventh District has begun to show the same signs of slowing as the rest of the country. Retail sales decelerated in May, which contacts attribute to higher interest rates and weakness in the stock market. Private employment growth has been weaker, although this may be the result of Census workers crowding out growth in a very tight labor market. Higher interest rates continue to further the slowdown in the Texas construction industry that began earlier this year. Despite the slowing in these interest-sensitive sectors, the Texas economy overall has been chugging along nicely. A strong forward momentum stems from the rebound in the energy and high-tech sectors. The energy sector continues to respond to higher oil and natural gas prices. Oil price fluctuations have grabbed the headlines but the strength of natural gas prices is the key to the health of the U.S. and Texas energy industries. Environmental regulation is prompting electric utilities to stay with natural gas even as its price has risen. Consequently, spot prices for natural gas have risen sharply and

the futures market suggests that current prices will be sustained until early 2001. In both Texas and the nation natural gas continues to dominate drilling activity, which should remain strong in the foreseeable future. On the oil side of the energy industry, strong crude oil prices and low inventories of gasoline have combined to push up gasoline prices. Refineries will be running at capacity to keep up with the demand for the duration of the summer. These forces have helped the Texas energy industry to recover from the depressed levels of activity in late 1998 and much of 1999.

The high-tech sector continues to rebound with the resurgence of the Asian economies. Another surge of investment in new chip-making capacity is getting under way, especially in Austin. That has prompted the Austin Chamber of Commerce to devote its efforts to recruiting workers instead of companies to move to Austin. The wild card in the outlook for the Texas economy is Mexico. The Mexican economy has been quite strong, but the usual uncertainties--and then some--surround their presidential election on July 2nd. For the first time in over 70 years, the outcome of the election is too close to call. And the possibility of political turmoil is contributing again to concern about capital flight and a subsequent devaluation of the peso. The cash manager of our San Antonio branch recently visited several border banks and reported that Mexicans are holding increased levels of U.S. dollars, most likely in anticipation of another peso devaluation. If there were to be a correction in the peso's value, it would hopefully be smaller this time around because the central bank has a much higher ratio of foreign reserves to its monetary base, in contrast to the situation they had at the time of the last crisis. This year's run-up in oil prices, of course, is also helping the Mexican economy.

Turning to the national economy, our projections for growth and unemployment this year are pretty close to the staff forecast. But I do see less inflation because of continued

productivity gains and no subsiding of competitive pressures on pricing. For next year our outlook is for a continuation of growth at a rate comparable to this year's, but with no acceleration of inflation. From a policy perspective, the economy is at a delicate stage. Interest-sensitive sectors are showing signs of a slowing in demand growth. Given that we've recently put additional tightening into the pipeline, there could be considerable benefit to waiting a while to judge the impact of what we've done. Core inflation this year is about where it was prior to the Asian crisis. And absent the inflation spike that showed up in the numbers for March, the inflation trend thus far in 2000 does not seem alarming. Given that the inflation threat is neither severe nor immediate, the risk of adopting a wait-and-see posture seems minimal.

CHAIRMAN GREENSPAN. Governor Gramlich.

MR. GRAMLICH. Thank you, Mr. Chairman. It seems to me that this meeting is much more about NAIRU than any of the other meetings we've had, at least in the recent past. Until now the real economy has been rocketing ahead at a seemingly unsustainable rate and there was at least a whiff in the air that underlying inflation was picking up. Now real growth has slowed, quite quickly in fact, and the signs of acceleration in inflation do not look so strong either. It is at least possible that the Fed has already done enough tightening and that we can stand back and examine our work.

There are grounds for thinking that we have done enough already. If the long-run core inflation rate is about 2 percent and the long-run real interest rate is around 4 percent--which can be read from either the TIP market or inflation-corrected nominal interest rates--the nominal federal funds rate should be at least 6 percent for a balanced economy. Throw in 50 basis points for leaning against the wind or adjusting for the balance of risks and we are at the

present funds rate. In forecasting out at this funds rate, the Greenbook estimates that real growth slows to 4.2 percent for next year, arguably close to the staff's estimate of the growth of aggregate supply. Hence, the unemployment rate drops only slightly in the flat funds rate scenario of the Greenbook forecast. Even though the Greenbook as a whole does not point to the wisdom of this particular policy approach, it suggests that there is at least the chance that such an approach to policy will generate stable, noninflationary growth. But such a monetary policy would be very unwise if the economy's unemployment rate is still below NAIRU. According to the Greenbook forecast, and even more the FRB/US econometric model, NAIRU is still above 5 percent--well above in the case of the FRB/US model. If NAIRU really is that high, we should view the present lull as just a temporary phenomenon and we should still be tightening policy.

While I strongly believe that monetary policy should be preemptive and have been generally on the hawks' side of the issue when real growth was rocketing ahead, for a while now I have not been convinced that the economy's 4 percent unemployment rate is much below NAIRU. In the econometric research you have all heard about, most fixed coefficient estimates give a NAIRU of 5 percent or higher. The Kalman filter variable coefficient estimate of Brainard and Perry has NAIRU down to 4 percent. But when the staff tries a similar approach, they still get NAIRU estimates above 5 percent. Stock and Watson, and I suppose Greenspan, find the whole exercise quite unconvincing and argue that whatever the estimate, it has enormous standard errors. Much as I like econometrics, I'm afraid that I'm on the skeptical side on this issue. The unemployment rate first dipped below the Greenbook estimate of NAIRU in late 1996, three and one-half years ago. And yet the signs of acceleration in either prices or wages are still rather scant. We have talked about these signs often and I worry about them as

much as anybody, but I think "scant" is the operative word. Some temporary factors slowed the core inflation rate in 1998 and 1999 and these factors have now reversed, showing up as somewhat higher core inflation in early 2000. Abstracting from this reversal, there has been some but not that much of a rise in core inflation. Unit labor costs have decelerated up until now, though Larry Slifman gave a disquieting forecast of this measure for the future. At the same time he also gave some quieting information on items in short supply.

Nobody has mentioned long-term inflation expectations, but they have been remarkably stable, remarkably unresponsive to the oil price increases. In addition, the Treasury nominal/real interest rate spread looked as if it was increasing last month, but it has moved back down to fairly acceptable levels.

Let me make one further comment on the hard landing scenario. While the risk of recession was the last thing on everybody's mind last month when the economy was rocketing ahead, the sharp drop in real growth at least raises this issue. Given the strength of the present investment boom, I am inclined to downplay any risk of recession. But the Committee should be mindful of the risk of overshooting. Policy should be preemptive on the down side as well as the up side.

Putting all this together, it is possible that the Fed has already done enough, that the funds rate is already high enough to stabilize the economy. But I emphasize the word possible because there is still significant risk that the NAIRU could be in excess of 5 percent and then inflation could begin to heat up or, in Bill Poole's terms, that the Fed won't be perceived as being tough enough on inflation. For now at least, I'm fairly comfortable reverting to our previous watchful waiting mode, giving strong signals that we still think the balance of risks is

on the up side and that we are prepared to take appropriate action if the data become disquieting. Thank you.

CHAIRMAN GREENSPAN. Governor Kelley.

MR. KELLEY. Thank you. Mr. Chairman, we've been seeking a slowdown in the expansion for a long time and perhaps we have it at last. Often when the economy moves into what could be a paradigm shift, this Committee must go through a period when it is uncertain about how to read the course of events. This appears to be such a time when policy decisions have to be made. Please be patient with a 20 second review of recent history. In the fall of 1998 we eased policy not because a weakening economy called for it, but rather in response to a looming international crisis that required quick, strong action. The pre-existing level of the fed funds rate was restored over the second half of 1999, but the easing was no doubt a factor in the strong surge of growth from mid-1999 until now. So far this year we have taken rates 100 basis points higher, with half of that done only a month ago. Today the easing of 18 months earlier is going away and the increases of the past five months are kicking in. If we believe it is certain that further tightening will be required, it might be best to push ahead right now. Alternatively, if we believe the opposite, we ought to tell that to the market with a symmetric statement and a no change directive. But it is probably not that simple. We are in what I would call "maybe" time. Maybe productivity will continue to be so strong that costs will stay in line and overheating avoided for some time to come. Maybe the NAIRU in this era is a lot lower than we thought and consequently the danger we perceive from it is a lot less than we believe. Maybe the consumer, having bought everything in sight and run his and her debt service load back up to the old record levels in the process, will continue to buy but at a more subdued pace and thus will extend the moderating consumption pace of recent weeks. Of course, all these

suppositions could flow the other way. Maybe consumer spending, capital expenditures, and the stock market, joined now by exports, will go ballistic again. Maybe, maybe, maybe. All these maybes plus $3 will buy you a grande size latte at Starbucks! [Laughter]

But the good news is that there are some important certainties and near certainties. In my opinion, near certainty number one is that inflation likely will creep up further but is unlikely to explode in our faces over the forecast period. Near certainty number two is that sales of housing and autos, two large cyclically sensitive sectors, are both slowing from their peaks and seem likely to stay at lower levels for some time. Near certainty number three is that the federal surplus is burgeoning and will provide a drag on growth at least through the early months of the next Administration, which is our forecast horizon.

Certainties in my opinion include number one--while we know little about it as yet--that there is a slowdown of unknown magnitude presently under way. Certainty number two, as we know of course, is that there is a substantial additional impact still in the pipeline from tightening already in place. And certainty number three is that by our August meeting we will be in possession of a large amount of invaluable additional data. We will know all about the second quarter, including GDP, ECI, unit costs, and corporate profits. And we will have June and July employment reports, data on consumer spending, and inflation numbers, among other things.

All of this tells me, Mr. Chairman, that before moving ahead we are in need of more data and some time to assess it. Fortunately, both economic conditions generally and the calendar seem to be ready to accommodate us. Thank you.

CHAIRMAN GREENSPAN. Governor Meyer.

MR. MEYER. As you know, I love talking about macro modeling and I love talking about NAIRU, and I like talking about the outlook too. But first things first. Let me start by responding to President Poole's comments about whether there might be two different models of the causal process of what determines inflation. I think there is only one model; I may not convince you of that, but let me try to explain my reasoning. The Phillips curve is not a model of what determines inflation. The vertical Phillips curve tells us that inflation is indeterminate in that model. All the Phillips curve tells us is when inflation is constant, when it is rising, or when it is falling. It's a model of the dynamics of the inflation process, but it's incomplete as a full model.

What about the causality from money to prices? Well, that's very important. That's an equilibrium relationship, which helps to pin down where along that vertical Phillips curve inflation will really be. But what gets you from one inflation rate to another when money growth changes? We have to have that dynamic model. That is what the Phillips curve does. We need both parts. So the problem we have is that even with all of the skepticism about NAIRU, we should understand that if we throw that concept away, we don't have another model at this point, as I think President Stern suggested. That's the problem. Now we can still question what the value of NAIRU is, but let's think for a minute what would be the situation if we really believed that NAIRU was 4 percent. Then I would have to be asking myself: How come inflation is so high? A core CPI inflation rate of 2.4 percent on a methodologically consistent basis would be the same as it was in 1995. Now, during that period since 1995, the unemployment rate was above NAIRU. We had all kinds of relative price shocks that were lowering inflation. We got a productivity shock that was lowering inflation. So, how come

inflation is so high? One thing to keep in mind if we don't believe this framework is that it's not clear why we would bother to tighten if we wanted to slow down inflation.

Let's move on to the outlook. I think the slowdown that's clear in the second quarter raises two important questions for the Committee. The first is whether it is a pause or a more sustainable slowdown. And if it is more sustainable, the question is whether it is sufficient to achieve our objective of containing the risks of higher inflation. Now, I describe the May employment report as incredible--meaning literally that it is not believable. It is not believable that private payrolls in effect fell off the cliff in May, a cliff that was elevated by the sharp increases over the previous two months. That's not to say that there isn't information content in that report, but it makes sense at least to smooth the data to get a better sense of the underlying reality. Granted, we don't know whether we should smooth it backward or forward. Usually smoothing it in both directions will be the norm. I think there is plenty of reason to smooth it going backward because the economy soared in the previous three quarters to a degree that was unanticipated by forecasters and their models. So part of this slowdown could simply be a smoothing out of growth to an average more in line with fundamentals, in the process taking it below the underlying rate for a while.

Now, as a private sector forecaster, I have to admit that I was frequently confronted by unexpected data, data that contradicted my forecast. And in each case I had to decide how much to respond by altering my forecast and changing my story. I developed two rules that I believe served me well. Now, certainly, one could change the current-quarter forecast. The question was what to do about the forecast over the next year or two. Rule number one was that when the data disconfirm your forecast, initially you ignore the new data and defend the old forecast. This is not simply stubbornness. Well, it's stubbornness to a degree, [Laughter] but

it's not only stubbornness. It also involves the recognition of the volatility in high frequency data, the difficulties associated with seasonal adjustment, and the potential for revisions or reversals in the data. Rule number two was to know when to say when. That is, when the data continue to contradict the forecast, it is time to change the forecast. Otherwise, clients tend to change their forecasters! And of course, really good forecasters know when to shift from rule one to rule two.

As a forecaster, I'm still operating under rule number one, and I think the staff appears to be following the same strategy. As was just noted, some slowdown was expected, whether beginning in the second or the third quarter, after the unexpected and indeed inexplicable surge over the previous three quarters. Now, part of this slowdown could also be the cumulative effect of monetary policy tightening. But I think Chart 2 in the staff's outlook packet suggests that tighter financial conditions cannot explain much of the second-quarter slowdown.

Presumably, there are good rules of thumb for how policymaking should respond to unexpected economic developments. In this case, I don't believe rule number one would be to ignore the new data and continue to set policy based on the old forecast. The new data at the very least raise the degree of uncertainty about the forecast. And this high order uncertainty may reasonably justify a more cautious policy response to the old forecast. This difference reflects the fact that the forecast is the mode of the probability distribution associated with the outlook, while policymakers should take into account the full probability distribution associated with the forecast.

Let me turn to a few comments on the inflation outlook. I was also quite surprised by the very small increase in average hourly earnings in May. It altered my story, and I hate that!

And it interrupted what appeared to be a definitive change in the trend in the series, based on the fact that average hourly earnings had increased at a 4-1/2 percent annual rate over the first four months of the year, following a 3-1/2 percent rate over 1999. With the May data we have a 3.8 percent rate over the first five months, so the case for a change in the underlying trend is less definitive. It seemed to me that this stable pattern in average hourly earnings contradicted the anecdotal reports, which have been suggesting that pressures for wage change are building.

This contradiction was driven home in this room not too long ago when I had a meeting with state bankers as part of one of the state banking association meetings. It was a day after I had given my last outlook talk. The head of the bankers group took out a newspaper article about my talk, which began by identifying me as an inflation hawk. It then went on to report that I had said the data did not yet indicate a clear pattern of rising wage gains. He wanted to have a little fun with me, obviously, so he said: What kind of a hawk is it who can't see the clear change in wage pressures in the real world? I'm going to help you out, he continued. We're going to go around this table and we're going to let everybody straighten you out. So, everybody at the table gave his or her story about how much wages were going up, how many workers they were losing, what percentage wage gain those workers were getting when they moved to their next job, and what it meant for recruitment and training costs to business firms. To be sure, their view was that what had happened to date was raising wage pressures and compressing profit margins, not increasing prices. So, I think it's interesting that on the wage side the anecdotal stories seem to have become clearer but the data remain mixed. On the price side it's just the reverse; the anecdotal stories about pricing leverage still suggest that price performance remains fairly good. But it seems to me that the data on prices are clear and that inflation is rising. It is rising whether one looks at overall inflation or at the core

inflation measures. I think President Parry made a very good point that the increase in inflation to date, in core measures as well as the overall rate, can be pretty well attributed to the primary and now the secondary effects of higher energy prices. So the impact of these rising wage pressures has not been definitively felt yet on inflation. But in the staff forecast it will be, and that is my judgment as well. Therefore, in the context of tomorrow's policy decision, the tentative signs suggest some slowing in the economy of yet uncertain persistence and dimension, but still with very tight labor markets and already rising trends in inflation.

CHAIRMAN GREENSPAN. Governor Ferguson.

MR. FERGUSON. Thank you, Mr. Chairman. I suppose I'm fortunate that I have never tried to make a living as a forecaster because it's easier for me to look at the incoming data as opposed to trying to throw it out. And based on what I've seen, my view is similar to what others have said in that I believe there are some early signs of slowing out there. They have appeared in the interest-sensitive sectors of housing and motor vehicles. Also, and I think importantly, the most recent incoming data suggest that consumer confidence is starting to wane a bit.

To me one of the major questions about the second quarter has come up a couple of times in this discussion. And that is whether what we are seeing is simply the slowdown that was to be expected after very rapid growth in the first quarter, whether it reflects some residual seasonality, or whether something else is going on. One of the things I did during the recent intermeeting period was to ask the staff to give me at least a sense of any evidence of residual seasonality. They've done that. And in what they've shown to me, at least looking at this over longer periods, there doesn't seem to be any systematic trend for the second quarter to be much slower than any of the other quarters during the course of a year. So I think we can probably

rule out any systematic seasonality here. I think it is still possible that what we saw in the second quarter may have been a bit the result of weather-related changes and some other special factors that we can't pick up econometrically. But having said that, I'd still put a little weight, and perhaps others have as well, on the fact that we see some early signs of a slowing. The other place I would look for evidence of slowing is in the yield curve from the private sector where--again using a normal mode of interpretation--those in the private sector seem to be telling us by their behavior that they are seeing some slowing as well.

The final thing one might look to for evidence of a slowing is the interaction between these very high gas prices and what one might expect from consumer behavior. Again, working with the FRB/US model, it seems as though the increases we've seen in oil prices amount to somewhere between $40 and $50 billion less money available for consumers to spend going forward. And the effects of that might start to show up as soon as in the next quarter. So I think there are two or three reasons to feel that perhaps the beginning of some slowing is actually in sight here.

Having said that, as others have indicated, there also are clearly some signs that the slowing is not as certain as one might like. Obviously the most recent signals that we've seen with respect to the housing data suggest some uncertainty about this. Another factor that might give rise to some uncertainty is that financial market conditions between this and our previous meeting have become, if anything, a little more accommodative. Net corporate borrowings, driven by bond issuance, seem to have picked up again during the intermeeting period. Finally, as others have noted, there doesn't seem to be much let-up in resource utilization, particularly with respect to the labor market. So we have signs on both sides that I think we need to be mindful of as we deliberate.

I have two other points to make here. One is that it does seem, as Governor Gramlich said, that there is a bit of good news in that most of the indicators of long-term inflation expectations haven't moved up very much during this period. So I think that gives us some sign that we have a little time on our side. And finally, as the staff presentation pointed out and as Governor Meyer also noted, it is unlikely that what we've seen thus far reflects the full impact of the tightening that has been undertaken. So there is, I believe, a certain amount of tightening impact still left in the pipeline.

In sum, there is a sense that some slowing is in train. It might well continue if one believes some of the market indicators. While it does appear, as Governor Meyer indicated, that there is some pickup in inflation, it doesn't seem as though a break out is imminent or that inflation expectations have gone against us. Nevertheless, since we have worked so hard over the last year with respect to interest rates, we may have to do some more tightening. But at this stage I think we could comfortably take a bit of a pause, look at the incoming data a bit more closely, and judge whether or not the slowing is one with which we are comfortable. In doing that we should be careful not to signal that we're done, because in fact we don't know for sure if we're done. Nevertheless, I think we can take a bit more cautious attitude toward possible further tightening at this stage. Thank you, Mr. Chairman.

CHAIRMAN GREENSPAN. Vice Chair.

VICE CHAIRMAN MCDONOUGH. Mr. Chairman, economic growth in the Second District is minusculy slower than it was the last time we were together, but the slowing is almost imperceptible. As I interpreted the comments of other Reserve Bank Presidents, I think the slowdown in the Second District is not as much as that in other Districts,

On the energy question, I had the good fortune to spend about an hour and a half today with the energy minister of and I think his insights are worth sharing. He feels that there is inadequate emphasis placed on the effects from the period of very low prices in two respects. First, the high-cost marginal suppliers were put out of business and will stay out of business, so a part of the available supply simply has shut down and will stay shut down. Secondly, the normal level of investment in new supply was reduced considerably. Therefore, until about two years from now, when the current investment in new supply of petroleum and other energy sources comes on stream, he believes we will continue to have a fairly high price, unless the Gulf producers decide just to increase their output. In his estimate they would have to increase production by about 1-1/2 million barrels a day, which does not seem particularly likely. I note that the gentleman represents a point of view which would prefer that the energy price be in the $20 to $25 per barrel area, and he is not very optimistic about seeing that for another 18 to 24 months.

As for the national economy, some slowing appears to be evident, but I think we have to be a bit careful because the data gave false signals of a slowing in the second quarter in both 1998 and 1999. That’s not unrelated to the fact that we haven't had a serious winter in this country since 1997 and, therefore, the seasonals tend to give off some funny signals. However, I think we can assume that the likelihood of some slowing is there. All of the research we've done, going back to the early 1980s, on how long tightening takes to be effective would lead one to believe that very little effect of the tightening we've done so far is in play. That’s especially true if one agrees with the view that the first 75 basis points involved a correction or undoing of the easing that we implemented, for understandable reasons, in the fall of 1998. So, if we see some slowing already, with very little of the tightening having taken hold yet, then I

think it would be reasonable to believe that the economy will continue to slow over the future. However, in my view, the main point is that we should conclude that we have time to watch and reflect as developments unfold.

It seems to me that over the last several years our best judgment has been that we have been willing to be reflective when we have been uncertain. Yet at the same time, because of our firming action in 1994 and 1995 and our firming action in the present cycle, including the most recent increase of 50 basis points, it seems to me that the Federal Reserve has maximum credibility. And that gives us an opportunity to watch and wait when we think that that is the right thing to do.

On the NAIRU, having become an arch skeptic about its usefulness, I went back and reminded myself of what I had said in our discussions in 1994 when I certainly sounded like a very true believer in the NAIRU. So if I have turned agnostic, it is a recent change and the question, therefore, is whether it is enduring or whether I think the NAIRU is on vacation for a while. I think it's probably the latter and that in fact the NAIRU is a useful tool, which we will find more useful in the future when we are a bit more certain about how it is functioning and where it really is.

I bring this up largely because I think we have to be very careful in our statements about the NAIRU and about an ideal level of unemployment. If one listens to the discussion today, everybody here, whether skeptical or believing in the NAIRU, views it as a tool and not as a policy goal. Yet I think many observers, especially journalists, cannot make that distinction. When we discuss the NAIRU in our public remarks, either in speeches or interviews, in some cases at least we are coming across as if we believe that we need to have an unemployment rate of "x"--which is considerably higher than what we have now--and if we

don't, there is something wrong. The Congress of the United States never put us in the business of having a certain unemployment rate as our goal. So if we want to use NAIRU as a tool, as I think we certainly did in the past--some still wish to, and probably most of us will in the future--we ought to be very careful that we're talking about it as a tool and not as a goal. Very clearly, and I think unwisely, we will lose the support of the American people if they think that what we are trying to do is to increase the number of unemployed people by 1-1/2 percent of the workforce.

CHAIRMAN GREENSPAN. Thank you very much, everybody. Just as a reminder, the dinner at the British Embassy is at 8:00 p.m. tonight. There will be Board vans at the Watergate at about 7:30 p.m. to pick you up. Is there more than one set of cars? Does anybody know whether or not those who are late and miss the 7:30 p.m. scheduled departure have to walk? [Laughter]

MR. KELLEY. Several vehicles will be there.

CHAIRMAN GREENSPAN. There will be several vehicles. We will see you all at dinner and then again tomorrow morning at 9:00 a.m.

[Meeting recessed]

June 28, 2000--Morning Session

CHAIRMAN GREENSPAN. Good morning, everyone. We have arrived at the agenda topic relating to the long-term ranges for the monetary aggregates. As you know, this topic stems from the Humphrey-Hawkins legislation--a term we no longer use except in an historical context. Don proposed putting the long-run ranges for the monetary aggregates on the agenda as a placeholder. But it is my intention, if it is all right with everyone, to forgo both a discussion and vote on these ranges. We are no longer legally required to do that. The Committee, as you know, has not been using the ranges for the aggregates to guide policy for many years. Indeed, in recent years the ranges have become even more questionable benchmarks for money growth at price stability because of the uncertainties about long-run productivity growth and about what exactly we mean by price stability. The ranges were a reporting and accountability mechanism in a part of the Federal Reserve Act that has now expired. And it now seems that the most likely outcome of a proposal to renew such legislation will require that we provide semi-annual reports on monetary policy to the Congress but will not include a requirement for annual ranges.

So, unless I hear objections, I propose that we take advantage of this opportunity to stop doing something that I sense all of us have become uncomfortable with over the years--establishing money ranges of questionable usefulness that no one takes very seriously, or at least recently has taken very seriously. It is quite conceivable that such ranges may at some point be useful again. But I personally feel uncomfortable engaging in an activity of this nature when we do not actually employ the ranges for the specific purpose of formulating our monetary policy. I think we have to monitor the various monetary aggregates because, indeed, there is information in them. And it is conceivable that at some point they will emerge again

with some very useful relationships with respect to opportunity costs and income velocity. At that point, obviously, we will make more use of them. This is not to say that money is not relevant for the economy. For a central bank to say money is irrelevant is the deepest form of sin that such an institution can commit.

The problem is that we cannot extract from our statistical database what is true money conceptually, either in the transactions mode or the store-of-value mode. One of the reasons, obviously, is that the proliferation of products has been so extraordinary that the true underlying mix of money in our money and near money data is continuously changing. As a consequence, while of necessity it must be the case at the end of the day that inflation has to be a monetary phenomenon, a decision to base policy on measures of money presupposes that we can locate money. And that has become an increasingly dubious proposition.

So, unless somebody has comments or objections, this is the way I believe we ought to proceed, but that clearly is at the Committee's discretion. I am merely putting the issue on the table for discussion.

MR. BROADDUS. Mr. Chairman, could I make a quick comment? I don't disagree with your proposal. It is certainly true that in these meetings the operational importance and significance of the money targets has diminished steadily over the years. And it is tempting to think of dropping them as a sort of non-event. But I think it is important to keep in mind the role that these targets played in a longer-term historical context. Given the degree of long-term correlation between money growth and inflation, one can look on the adoption of these targets initially in the 1970s as a sort of implicit agreement between the Congress and the Fed that the Fed was ultimately responsible for containing inflation. In a sense one can think of these targets--as I do--as the closest thing we have to a formal mandate for low inflation. And even

though we have not used them in any significant operational way recently, they have provided an occasion for us to take a longer-term, more strategic view of our policy objectives at least twice a year at these meetings. And they have provided at least a whiff of quantitative institutional accountability. We lose this, I think, with the lapsing of the requirement that we set these targets. In a formal sense it puts us in an almost totally discretionary operating mode.

CHAIRMAN GREENSPAN. Actually, I agree with that. But I think we can resolve that issue without going through the formal process that has been required under statute. I don't see any reason why we can't have something on the agenda, which essentially involves a discussion of the long-term inflation imbalances or whatever we want to call it. Don, let me ask you a question on this. We formally went to two-day FOMC meetings for those meetings preceding the Humphrey-Hawkins testimony. Is it contemplated that for the future we will still have two-day meetings? Do we still need two days? What will we be doing in the additional time at these meetings? Is there any reason, for example, why we can't put on the agenda instead of the long-term monetary aggregates something that covers this area in a more generic way so that we could have a presentation by the staff and a Committee discussion?

MR. KOHN. No, there is no reason we couldn't do that. I actually thought we wouldn't change the format of these meetings significantly since the Committee has been spending at most a half-hour or so on the monetary aggregates. Just in terms of preparation for your Congressional testimony twice a year, I thought the Committee might want to take a bit longer view--as Dave, Karen, and Larry helped to do yesterday--and look a little more deeply below the forecast. I thought the Committee would want to continue to do that.

CHAIRMAN GREENSPAN. So there is no reason why we can't utilize the half-hour we used for arguing about the numbers and how they are perceived and instead talk about the real substance of inflation.

MR. KOHN. Yes, there’s absolutely no reason.

MR. BROADDUS. That would certainly help me a lot. I think that would be very desirable for the Committee to do. I would go one step further. Just speaking for myself, I would rather see a formal institutional substitute for the topic of the money targets rather than just a discussion, although I certainly think the latter would help. I know we can’t agree on that this morning. We have talked about inflation targeting before. That is now a procedure that a number of other industrial countries have used with at least some success. There is a pretty broad consensus, I think, in the profession that it is an idea worth looking into. We have now had a sustained period of the coexistence of low inflation and rapid growth. That experience may have begun to erode the popular attention that for so long has been given to the Phillips curve. So, I think this would be a good time for us to revisit that issue and consider as a Committee recommending the adoption of an inflation target at some point.

CHAIRMAN GREENSPAN. You mean a recommendation to the Congress?

MR. BROADDUS. Yes, after due deliberation and consideration here. Even if it doesn't fly, it would still provide you with an opportunity, Mr. Chairman, to restate and reinforce a view that I believe is a widely held consensus in the economics profession. That view is that putting inflation first gives us not only the best inflation outcome, but also the best output and employment outcome as well.

CHAIRMAN GREENSPAN. I agree with that last statement. But it is still too soon to make a judgment as to whether official inflation targeting actually works. And we won't be

able to make that judgment unless such targeting is tried by a diverse group of countries and we can determine that those with official inflation targeting did better than others. At the moment, one cannot make such a distinction because inflation has been down everywhere and the results are not sufficiently dispersed statistically for us to say that official inflation targeting actually matters. That is a distinct issue from that of endorsing a general overall philosophy, largely based on the last statement that you made, rather than a formalized process. But, clearly, if we get into a period where inflation rates start to differ among countries and it is evident that those with official targeting are doing better than other countries, I think we will all grab onto inflation targeting as an obvious solution. It is very difficult at this stage to make that case up on the Hill. Making that effort can't do any harm, but what will happen then is that those who are really not all that enamored with keeping inflation under control will argue against it. They worry that we can trade off inflation against employment, and there is still a lot of that kind of thinking up on the Hill. So at this stage I don't think we could successfully move toward a statutory inflation target with the evidence that currently exists. I suspect that if we eventually get diverging inflation outcomes across a range of countries, with those on official inflation targeting regimes experiencing significantly more favorable inflation results, then it would be an easy sell. I don't think it is now.

MR. BROADDUS. I certainly respect your point of view, Mr. Chairman. I would simply hope that we would keep some inflation targeting proposal at least in our back pocket, or maybe even in our front pocket. I'd look for an opportunity to advance that view because for me at least it is an uncomfortable situation not to have some kind of institutional anchor like that. I think such an anchor is highly desirable and we do not have one now.

CHAIRMAN GREENSPAN. I fully agree. I think the way the statute is written is essentially the result of a Congress that over the years has had considerably divergent views that they could not square. And what we got was a statute that was designed to do all things for all people so long as it was good. I would be the first to go up to the Hill and try to get something done if I thought it was even remotely feasible. Right now a bill which specifically and exclusively restricted us to an inflation target would not get through the Senate Banking Committee and probably would not even get to the House Banking Committee for discussion. That's my view of the state of play. We are going to need more evidence before we move forward on that.

MR. BROADDUS. We have to build a case.

CHAIRMAN GREENSPAN. President Poole.

MR. POOLE. Mr. Chairman, I was going to make a comment very similar to the one that Al Broaddus made. I think the discussion of monetary targets has been a highly imperfect way of nevertheless getting at an important point on which we ought to have some agreement around this table--namely, what the inflation target is that the Committee itself has in mind. I believe there are divergent views around the table as to what the inflation target ought to be. I would rather see our discussion focused on the inflation target itself. Whatever the attitude in the Congress, we need to have some working assumption. At the present time we have different working assumptions around the table as to where we would like to go, say, in the medium term, or in what direction we would like to work. There are some people around the table who would like the inflation rate to be lower than it has been and is likely to be. I would count myself in that camp. I think there are others who are quite satisfied with the current rate or would be willing to see it go somewhat higher before we come down very hard, in policy terms,

to try to do something about it. So, although highly imperfect, I think the discussion of the monetary aggregates has had implicitly in the background a focus on the Committee's long-run objectives for inflation, which I think it would be desirable to clarify.

CHAIRMAN GREENSPAN. Actually, I'd characterize the nuances that are involved in a slightly different way. If we took a vote on whether, all other things equal, we around this table would like to see the inflation rate lower than it is today, I bet we would get unanimity. Where the differences will show up is at what cost or tradeoffs. That's where the differences will arise. I don't think the issue is a lack of commitment on the part of any of us to getting as close to stable prices as possible. I would presume we are all pretty much in agreement that at stable prices, other things equal, we get maximum long-term sustainable growth. The issue, however, is that there are differing views in this Committee regarding the actual mechanism that is involved and what the tradeoffs are with respect to various aspects of the economy, at different rates of inflation, employment, interest rates, and the like. I agree with you that there are doubtless differences around the table on what the cost/benefit tradeoff is under certain conditions. And until there is a squaring of a conceptual framework to which we all adhere, there will be differences.

For example, take the discussion we had yesterday about the model. Suppose we all agreed that that abstraction of reality was a wholly valid view, in a reduced form, of the way the world actually works. In that case, we would all by definition have exactly the same view as to where prices should be, what the tradeoffs are, and the exact mechanism that enables us to get there. My view is that we all have different ideas about how to alter that model; and that exactly replicates the differences around this table on the question of the role of inflation in our complex economy. I see no way to resolve this in any sensible manner other than by imposing

some artificial number. But everyone around the table will be qualifying that number in the back of their minds in one form or another. And I'm not sure that helps. I do think the basic view among Committee members is that inflation is fundamentally a destructive force in an economy and a society, that inflation destroys jobs, and all other things equal that a stable price level, however defined, contributes to maximum sustainable growth. What I'm saying in effect is that on a whole series of generalized propositions the philosophy of the members of this Committee is remarkably uniform. The differences we have are far less than those in some earlier FOMCs on which I and some of you have served. So in that regard we are closer together than any earlier FOMC I have been associated with. But any effort to enforce a sharp, single, reduced form focus on a specific price level, irrespective of what is required to get there, will create marginal differences among the members of this group. I don't think we can work with that sort of focus because it won't stick. Unless we can reach agreement on a very explicit, reduced form model of the way the economy works--and we all sign off on it and say our monetary policy votes will be determined exactly by that particular model--the best I think we can do is to reiterate our basic concerns about inflation, argue with each other at the margins, and hopefully get closer to agreement. I do believe that the discussions we have had around this table have affected all of us, in the sense of bringing us closer together. But I would be very hesitant to try literally to reach agreement on a formal inflation range of, say, 0 to 2 percent, or 0 to 1 percent, or zero, or what have you, largely because I don't think it is going to add to the effectiveness of the Committee. At least that is my view. Vice Chair.

VICE CHAIRMAN MCDONOUGH. Mr. Chairman, I agree 100 percent with the substance of what you said. Let me suggest a procedure. I think there is great benefit to our practice of discussing the goals and strategy of monetary policy in detail twice each year. I say

that because at most of the other meetings, even though we wander in and out of discussions of strategy, mainly what we are doing is talking about tactics. I would suggest that we not indicate in the minutes of this meeting that we are planning to discuss a formal inflation target. First of all, I have a very strong view that that is the purview of the Congress, not of the FOMC. And if it were made public that we were going to establish an inflation target, I believe many people in the Congress--and I would be one if I were in Congress--would say, "Well, if you're going to talk about that, please come up here and discuss it with us." I think that would be highly counterproductive. I also agree very much that trying to pinpoint a number that we all agree on would be a specious exercise in precision. Even though some of us come at it from different directions, I really do believe that the degree of unanimity on this Committee is quite extraordinary. And in my view arguing about a number would be counterproductive, not productive.

CHAIRMAN GREENSPAN. Governor Meyer.

MR. MEYER. I always look forward to these opportunities to have broader discussions on long-term goals and strategies, and I agree with the Vice Chair that it would be good to do this on a regular basis at each of these two-day meetings. Let me give you a few thoughts on both the monetary aggregates and inflation targeting.

I agree with Presidents Broaddus and Poole that one of the desirable features of our discussions of the monetary aggregate ranges was that there really was in that process an implicit inflation targeting. So, while we are not prepared to have an explicit discussion and pin that target down, we did it implicitly when we set the ranges. Secondly, I am one who still believes that there is information content in monetary aggregates and that they are very much worthwhile monitoring. I quite agree with the Chairman's proposal: If we no longer have to set

ranges for the monetary aggregates for Congress as part of the Humphrey-Hawkins process, it would be reasonable not to set ranges because we don't pay enough attention to them as a Committee to justify that. As for myself, I do pay attention to the monetary aggregates. I get a briefing on them before each FOMC meeting. And I'm going to ask the staff now to prepare a packet as part of that briefing with ranges that I feel are more reasonable and from which the information content can be extracted visually. So I think that is still useful to do.

In terms of inflation targeting, I make a big distinction between inflation targeting as strategy, particularly when it means going to a single objective for monetary policy, and setting an explicit target for inflation as part of our present dual mandate. I think it is a very big distinction. There are also distinctions about inflation targeting today as a methodology; it is an approach to hitting inflation as well as a procedure that has a numerical target for inflation. I am very much committed to a dual mandate. I think that is the right way to go. But, as you know, if we think about that dual mandate and how to achieve it from the perspective, say, of the Taylor Rule, we are forced to put some number in there for our inflation target. I am always amused to get the “rules packet” because when I open it up I see 2 percent in there. Where did that come from? Well, that was John Taylor's target. So we sit around the table and we look at simulations from the rules packet based on John Taylor's thoughts on what is the appropriate inflation target. I think it might be reasonable for us to tell the staff what our inflation target is and have the packet done that way.

Would it really matter? In other words, are we fighting over something that is not that important? Well, I agree that there is a good deal of consensus among us, but there is a range of views. I have a view--I call it price stability plus a cushion--that may be a little higher than some others would have, but I think it is useful for us to have coherent internal discussions

and appropriate transparency regarding what we're trying to do. I believe we should try to agree among ourselves and communicate to the public where we are trying to go because the public could say they are not really sure where we are going. Is 2 percent for the CPI just about right? Do we understand what that means and if we achieve that rate for the CPI is everything fine? Or are we really heading for zero? Well, that is a big difference. Do we know?

So, I think at least some further discussion of this issue is worthwhile. And while I don't see us moving any time soon, I think having an opportunity to voice such issues around the table when we have these two-day meetings and to make some incremental progress toward a consensus is really valuable. I have enjoyed this discussion this morning. Thank you.

CHAIRMAN GREENSPAN. Governor Gramlich.

MR. GRAMLICH. I have enjoyed the discussion, too. Let me cut it a slightly different way. On the inflation targeting issue I think there are three levels on which we can confront this. One is internally in our own heads. At that level I actually find inflation targeting quite useful. I have often thought in terms of that and in my statements have described what we ought to do in those terms, and I will probably continue to do that. There is a second level that I would call internally within the Committee. I agree with others that twice a year it would be a very good idea for Don to put on the agenda a topic that involves our talking about long-run strategies for monetary policy. Maybe the designation of that agenda item could be something a bit less pejorative--for example, “anchors of monetary policy” or something on that order. But I do think it is a good idea for us to have these issues on the agenda for discussion twice a year at a specified time. Maybe as we do that we will converge on what our targeting strategy could be and what kinds of specific targets we might have. Perhaps we won't converge, but I think the exercise would be good for us and we will learn as we talk whether we can converge.

There is a third or external level, which is the Congress. That includes whether Congress ought to be giving us inflation targets and that sort of thing. Frankly, I have always thought that these issues are awfully subtle and not easily adapted to Congressional decision-making. If Congress gives us an inflation target, it is going to be pretty rigid; there are going to be times when that target is valuable and there will be other times when we find it very rigid and very confining. So I would get off the train at that point. But on the first two levels, internally in our own heads and internally within the Committee, I would welcome our thinking about monetary policy in these terms; I think that is a good idea. But externally I don't think it's a good idea.

CHAIRMAN GREENSPAN. Governor Ferguson.

MR. FERGUSON. Thank you, Mr. Chairman. I want to express agreement with what I take to be the main message of Governor Gramlich’s remarks and also the Vice Chair’s statement. Also, I agree with your proposal to move away from voting on ranges for the monetary aggregates since we haven't really been following them very closely. But obviously, as you suggest, I don't believe we would be credible central bankers if we didn't all in our own individual ways look at the aggregates at every meeting. And, in fact, I certainly did look at them coming into this meeting. So, I think continuing to keep track of them is part of what we are expected to do.

With respect to inflation targeting, I think we should not undercut ourselves. Members have expressed very clearly their support of a qualitative inflation target, which is that we want inflation to be so low and stable that it is actually no more a point of discussion in decisionmaking among businesses and unions, et cetera. And through a combination of good policy and some other factors I believe we have managed to achieve that objective and we are

fighting now to hold onto it. But I want to make sure we are clear that we do actually have a qualitative target; we are not completely without anchor.

I agree that it would be useful to have a strategy discussion, as Governor Gramlich indicates, twice a year. That seems to make sense. I will say on the quantitative target, having spent some time traveling around and talking to other central bankers, that as you suggest there doesn't seem to be much evidence yet that it leads to better policy. I recently read a speech by Lars Heikensten, the first deputy governor of the Bank of Sweden which has a formal inflation target, that suggests that the Bank is dealing with a couple of problems. One concern is the risk of losing credibility when they miss that target--either explaining why it was that they chose to miss the target or alternatively could not bring the economy to hit the target. The second concern they seem to have is that the public believes there is a bit of bias--that the central bank will be more willing to let inflation creep up rather than creep down. So they are struggling with a sense of an asymmetrical inflation target.

I am entirely in agreement with you that as we think about this issue we have to be mindful that perhaps inflation targets have built up credibility where there wasn't any. At this stage we have pretty good credibility. And the other industrial economies that have adopted inflation targeting have discovered that while on balance they may like it, it also creates some problems that weren't expected. So I think we should be very, very careful about going down that path at this stage. And those problems are in addition to what Governor Gramlich had to say about a nuance here, which is that if we go too far down this path, we may discover ourselves handcuffed in a way that undercuts our credibility and reduces our effectiveness rather than the opposite. So with that, let me stop.

CHAIRMAN GREENSPAN. Any further comments? Well, assuming that legislation proceeds in the form we expect, why don't we endeavor to have such a discussion at the next appropriate meeting. Presumably, we will continuously alter the focus and get closer to the Committee's general view of the type of discussion we want to have. Let's move on then and go to current monetary policy. Don, you have the floor.

MR. KOHN. Thank you, Mr. Chairman.

> As background for your discussion today, you received a paper by Flint Brayton and Dave Reifschneider that used the FRB/US model to examine the economic performance of the U.S. economy in recent years. Not surprisingly, their work suggested that a continuing pickup in productivity provided the major impetus to the extraordinary run of noninflationary growth. But it was not the only influence. The model results also emphasized the role of growing federal surpluses and an appreciating dollar in holding down interest rates and inflation, even as the labor markets tightened.
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> The study was undertaken in large part because we wanted to see whether the model could shed some light on imbalances in the U.S. economy that have become such a prominent element in discussions of the outlook and policy, particularly internationally. In fact, the performance of recent years has left the economy with some potentially troublesome imbalances--most notably, from the perspective of the staff model, the imbalance between the levels of aggregate demand and sustainable supply. But it has also produced other, subsidiary, imbalances between elements of spending and income, including a large current account deficit with its resulting buildup in net foreign indebtedness, and a low rate of private saving that has been associated with a sizable accumulation of debt by households and businesses. The latter two imbalances have been stoked by a rise in the dollar on foreign exchange markets and a rise in equity prices to levels well in excess of those likely to be sustainable over time.
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> In the Brayton-Reifschneider study these asset price and balance sheet imbalances are the natural consequence of the forces that have shaped the economy. Under reasonable assumptions on how those forces will evolve, the imbalances tend to work themselves out, or at least to stop getting worse, without major dislocations when you, the FOMC, concentrate on the

overall macroeconomic task of setting aggregate demand equal to potential aggregate supply. But in real life, the adjustment is not likely to be so smooth. The risk is that the balance sheet overhangs and elevated asset values leave the economy more susceptible to sharp corrections that could produce considerable economic instability.

Concern about this possibility has led some observers to advocate that U.S. monetary policy not look solely at overall macroeconomic balance but also pay special attention to asset prices or to savings-investment flows perceived to be in serious and potentially destabilizing disequilibrium. In concept, shaping policy in part to address these issues directly, while incurring a bit of extra economic cost in the form of different unemployment and inflation rates than would otherwise prevail over the short run, might avert larger costs and more difficult situations later.

With respect to asset prices, central banks have usually argued that they should not take account of such prices beyond factoring them into their assessment of the overall balance of aggregate supply and demand. Central banks are not confident they can identify dangerous asset price disequilibriums, or that they could calibrate policy actions to forestall further problems without adding unduly to economic instabilities. Many of the same sorts of arguments about the difficulties of identification and gauging the appropriate response could be applied to policies to address saving imbalances and debt buildups. Moreover, in the case of some of these imbalances, it's not obvious what role monetary policy could play, even if it wanted to. In particular, raising interest rates is likely to have little effect on the current account deficit. Although tighter policy would reduce imports by damping domestic demand, it also would tend to appreciate the dollar, raising the cost of U.S. goods and services and shifting demand away from U.S. producers. So, while the sanguine outcomes of Brayton-Reifschneider might seem implausible, there may be little the Committee can do in advance about potential problems. Instead, your best posture might be to concentrate on fostering overall macroeconomic balance, and to stand ready to react to sharp movements in asset prices or other spillovers from balance sheet corrections when they occur.

Nonetheless, the Committee's policy choices cannot be divorced entirely from consideration of the possible effects of asset price and balance sheet disequilibriums. Assumptions about how they will evolve are an inescapable aspect of projecting the economy and can be an important influence on the outlook. With

respect to both equity prices and the dollar, the staff has adopted a middle ground in the Greenbook and its extension in the Bluebook. We have built in declines in wealth-to-income ratios and the foreign exchange value of the dollar, but we have not made the full adjustments to what might look like more sustainable levels. The fall in wealth relative to income helps to raise private saving, but the declining dollar is a significant source of demand and inflation pressure over the forecast horizon.

The baseline simulation traces out the implications of the Greenbook forecast. Several key judgments about the supply side of the economy are important in that forecast. One is that the unemployment rate is now substantially below its sustainable level. Second, that productivity growth is picking up further this year, but that thereafter growth will level out at this higher rate. The labor market imbalance, which persists under the impetus from strong aggregate demand, together with the depreciation of the dollar and the catch-up of real wages to previous increases in productivity, produces an upward trend in inflation in the baseline unless the Committee tightens policy substantially.

Moreover, several of the alternative simulations built off the baseline suggest that even more optimistic views of the level and growth rate of potential supply may not remove the risk that inflation will head higher under the Greenbook policy assumption. A lower NAIRU than the staff's estimate of 5-1/4 or 5-1/2 percent and additional pickups in structural productivity growth do help to contain inflation over the next few years at current low unemployment rates, but pressures still build. The staff forecast does not embody the tightening of fiscal policy and appreciating dollar that Brayton and Reifschneider identified as so important to holding down demand and price pressures from 1995 on. The low NAIRU does not cancel the need for real wages to rise enough to capture the full effects of the previous increases in productivity. The cost-raising implications of this catch-up will be postponed if productivity growth is headed still higher quickly enough, but ultimately will show through as productivity growth levels out. Moreover, higher productivity growth implies even higher equilibrium real interest rates and the need for policy to tighten by more than in the baseline to keep the resulting increase in demand from outrunning the pace of potential supply and adding to inflation pressures.

Even with a more favorable path for potential supply, then, the Committee might be concerned that it will need to tighten further to stop inflation from rising--and before very long

if it is intent on keeping inflation near current levels rather than having it drift higher. Skepticism about either the lower NAIRU or additional upward speed in trend productivity would tend to add to perceptions of inflation risks, strengthening the case for action at this meeting, as in alternative C. In circumstances in which labor resource utilization was already unusually high and inflation by some measures had already picked up, the Committee might not want to take the risk that aggregate demand could rebound. You might desire greater assurance that financial conditions had firmed enough to keep the economy on a slower growth track, especially in light of the easing of financial conditions in many market sectors since your last meeting. Markets would be surprised by a tightening at this meeting. Such a strong signal that you did not share their optimism on inflation would not only raise interest rates immediately, but would set the stage for more sober reactions to incoming information than were in evidence over the recent intermeeting period. If the Committee were sufficiently worried about inflation to raise rates at this meeting, it likely would view the resulting path of asset prices as more consistent with a sustainable expansion of aggregate demand.

However, as noted, the staff forecast rests on a view of continuing strength in aggregate demand, supply side constraints, and dollar depreciation. You may see the incoming data as at least creating added uncertainty about these assessments. If you are not very confident of oncoming inflation risks, there are reasons to pause in your tightening, at least at this meeting.

In many of your internal discussions and public speeches you have signaled that you would like to follow something akin to a two-stage strategy to determine how much tightening you may need to undertake. Stage one is damping aggregate demand growth enough to bring it into line with the growth of potential supply so as to ensure that pressures on labor resources do not intensify. When the clear and present inflationary danger of worsening resource pressures seems less worrisome, in stage two the Committee would then assess whether the resulting level of resource utilization was too high to be sustainable. Given uncertainties about NAIRU, you may not be willing to enforce a specific view of the appropriate level of resource utilization without supporting evidence in hand.

The evidence of slowing in the economy, along with the likelihood that a portion of the financial restraint put in place since year-end has yet to be fully felt, raises the possibility that

you may be close to accomplishing stage one. At a minimum, the incoming data have increased uncertainty about the path of the economy and its response to policy actions. An appropriate reaction to such an increase in uncertainty is to move policy more gradually; in these circumstances, getting a better handle on how the economy is evolving should reduce the odds on overdoing policy restraint. Especially in light of the size of your action in May, that might suggest a pause at this meeting.

To be sure, such a pause probably would not be appropriate if there were reasonably clear evidence that current levels of resource utilization were unsustainable, or that inflation expectations were rising. Recent data have tended to show core prices rising faster than they did a year ago. But, a good deal of the pickup in core inflation may be attributable to the secondary effects of the rise in energy prices, rather than to excessive tightness in labor markets; at least the verdict is still very ambiguous. The only new data on labor compensation over the intermeeting period--average hourly earnings--did not suggest a rising trend that might confirm a sizable output gap. And, longer-term inflation expectations have not responded to short-term swings in published inflation, suggesting that even if incoming data on prices were to be adverse, the economy likely would not incur an especially high cost if the Committee decided not to act at this meeting. You will have an unusually full slate of new information by the time of your next meeting to make judgments on the strength of the economy and price pressures--essentially two months of new data, including an update on the ECI.

Whether the Committee raises rates or leaves them unchanged at this meeting, it might still want to indicate that the risks to good economic performance remained unbalanced toward higher inflation over the foreseeable future. As noted, a wide variety of simulations have suggested that this is indeed the case. More practically, the unusually high level of labor utilization, along with the increase in core inflation and rise in energy prices that could feed through to inflation expectations, would seem to reinforce the notion that tendencies toward higher inflation still are most likely to be your major problem going forward. If, for some reason, policy inaction nonetheless were taken inappropriately by the markets as a sign that you believed the risk of inflation pressures had subsided, the Chairman has an opportunity in his semi-annual testimony on monetary policy in three weeks to align market expectations better with your sense of the balance of risks.

CHAIRMAN GREENSPAN. Questions for Don?

MR. JORDAN. Don, in reading the Bluebook and listening to you now, it seems that a critical part of the analysis involves a wage-lag hypothesis. At a micro level the idea--this is not your language but the way I interpret it--is that the value of the marginal product of labor as individuals has risen but there may be some lag in the perception of this. And as reality dawns on the worker that he is more valuable, he'd want to be compensated in the paycheck for this. So, what we would expect to observe if that is going on is that for a while returns to capital rise relative to returns to labor. That is an imbalance; it needs to be adjusted. Over time, returns to capital will fall relatively while returns to labor rise and balance will be restored somehow. If the owners of the capital and the labor are one and the same, though, that is not an issue. So there is some notion that these are different participants in this economy and that those who are the owners of capital gain for a while relative to those who are the workers. Maybe.

At the same time, in some of our analysis of what is going on in the economy we have something called wealth effects. There the idea is that people in this long sustained prosperity have reduced their concerns about layoffs, have seen various aspects of their current/future consumption tradeoff altered, and perceive that their permanent income has risen. In a lifecycle sense they say, "We are richer: Our 401(k)s are doing better, our company's pensions are better, and our probability of being laid off is lower." Somehow they perceive that they are richer and can afford to consume more in the present as well as in the future. And thus being richer, even if they perceive that their wages currently have lagged behind the increase in the value on the margin of their labor, if they have a wealth effect in a sense there is no wage lag. There is no catch-up and rebalancing of returns to capital and returns to labor implied. There is no adjustment to be made.

MR. KOHN. I agree with the first part of what you said in terms of describing what is going on here. Basically the initial returns from the innovation in productivity accrue to the owners of capital, to the businesses who wake up one morning and realize that there are efficiency-generating capital investments and changes in production processes they can make. The first thing that happens is that they enhance their profits by making those innovations, by buying that capital investment and trying to expand their operations. And as they compete with each other, prices initially are held down. Over time, their efforts to expand their operations increase the demand for labor, but that occurs with a bit of a lag. So we can depend on the labor demand catching up slowly with the increasing profitability of businesses, as businesses compete against each other first in the goods markets and later in the labor markets. Prices in the goods market are less sticky than prices in the labor market. So initially the added demand doesn't drive up the price of labor as much as it otherwise would. But ultimately that demand feeds through. Workers realize that they're more productive, and both the supply and demand of labor will adjust to the higher productivity. You are right in concluding that that type of lagged process, a staged process, is what is built into the models. And it's what we think helps to explain why the productivity surge first seems to have damped inflation and why we then expect rising real wages to catch up over time.

As for the second part of your comment, I'm not sure that the effects would be what you suggested. It is true that it is workers who ultimately own capital in one form or another, but the distribution of human capital and the ownership of physical capital are very, very different. So very different people are benefiting from the increasing profits. That's one thing. Secondly, I think economic efficiency--in terms of the appropriate use of labor and capital--would suggest that over time their prices better adjust to the productivity of capital and the

productivity of labor if we are going to have the optimum combination of utilization of labor and capital. So despite the distribution of human capital and of physical capital--even if owned by exactly the same people--I think their prices would still have to change in order to give the appropriate signals to businesses and to labor on the proper mix. They need to know how much labor to supply to the markets and how to mix capital and labor in the production process in order to end up on the production possibility frontier. So I think those prices still have to adjust to enhance economic efficiency.

MR. JORDAN. Can I follow up, Mr. Chairman? I have two points on that. The more we believe that the distribution is quite different between the owners of capital and workers--and that certainly is true to some extent--the more trouble we have with wealth effect arguments as the catalyst stimulating consumption. If the workforce and this other group that owns the capital are totally different, driving consumption spending off the so-called wealth effects coming from technological innovation and rising productivity is a difficult case to make. The other point, though, is that innovation per se involves creative destruction, reducing the value of something old. And it doesn't matter whether it is technological innovation, managerial innovation, or whatever. That reduction in the value of something old--this is partial analysis--especially if it involves labor substitution kinds of innovations, does not increase the value of the marginal product of at least some workers. And the idea of worker insecurity as an hypothesis drives in the other direction in terms of whether or not these people perceive that there is a wage lag that needs to be rebalanced.

MR. KOHN. I think we perceived that worker insecurity, at least initially in this productivity pickup, was another reason why wages tended to lag, aside from the stickiness of wages relative to prices. But one would think that that insecurity has been overcome, in light of

an extraordinarily low unemployment rate and very tight labor markets, and has dissipated mostly if not entirely. And that should begin to show through; we should begin to see the process of the catch-up of real wages to productivity.

CHAIRMAN GREENSPAN. President Parry.

MR. PARRY. Don, I think the long-run simulations were interesting and useful and helped us to consider some of the strategic issues we face. The longer-run simulations assume that the value of the dollar falls rather sharply after 2001--by approximately 5 percent per year, I think. That boosts the path of the fed funds rate that is necessary to contain inflation. We know that projections about the value of the dollar are rather uncertain, and I was just curious about how crucial the size and timing of the dollar’s decline is to the outcome of these simulations. It looks as if it is a very significant factor.

MR. KOHN. It is a significant factor and I tried to indicate that in my briefing. I don't have a simulation that has everything else the same and holds the dollar constant. But as I mentioned to the Committee yesterday, I had asked our modelers to run what they call the “rosy scenario” simulation, which had both a lower NAIRU and faster productivity growth with a constant dollar. Interestingly, the lower NAIRU/faster productivity growth simulation does not obviate the rise in nominal and real federal funds rates in order to hold inflation to, say, around 2 to 2-1/2 percent. It does lessen the amount of the increase. And if we add the constant dollar to that, having all three of those things meant that the nominal funds rate could stay around the current level over the next two years and we would still get inflation coming in at about 2 percent. So it does make a big difference. In our judgment, a difference of about a percentage point on the nominal funds rate after a couple of years would be needed to accomplish the same inflation objective. I think Karen Johnson would like to speak to this.

MS. JOHNSON. I would, in the sense that the 5 percent number gets one's attention shall we say. It is not that we have a view that a 5 percent decline is necessarily going to happen or that we have even a clue as to when the decline would start or how fast it would proceed. The problem is that in order to do a simulation with relationships that define exports and imports we have to have in the model their effective relative prices and the accumulating net investment position of the United States, and so forth. Those relationships are built on historical experience at this point. We have no alternative that we trust that would lead us to go in and adjust those arbitrarily because of something we think is going to happen for which there is no precedent in history. Those relationships tell us that any depreciation of the dollar that is less rapid than 5 percent causes the net investment position to explode at some point in the future. And that is just not something an econometric model can handle. It can't provide us with a useful long-run simulation with something like the net investment position extrapolating ever faster to larger and larger positions. So, in order to make the model have other features that are not disturbed by this exploding net investment position, we have to put in a value of the dollar that keeps that investment position behaving. Consequently, one reasons back and back and back and one ends up with that 5 percent. Does that mean the dollar will start falling by 5 percent in 2002 or 2004 or 2005? Not necessarily. But there is a germ of truth in this analysis unless we start seeing in the data something that says the historical relationships and elasticities no longer apply. Were the dollar to remain strong and were that to give us a more favorable outcome on the federal funds rate, it would be creating another problem--one that is growing insidiously--which is this net investment position.

MR. PARRY. Thank you.

CHAIRMAN GREENSPAN. Governor Gramlich.

MR. GRAMLICH. I actually wanted to get in on the previous discussion between Jerry Jordan and Don Kohn. As I interpret Jerry's argument, it is that we could get a productivity shock and, perhaps because of the wealth effect, wages will not catch up. Frankly, I would like to believe that. I think we would all like to believe that. But in addition to the answer that Don gave, a problem I would have with that analysis is this: If the worker is not in possession of physical capital, the way the wealth effect would work is through some sort of expectations regarding future earnings. And those future earnings are the wage rates themselves. So I don't see where the wealth effect on human capital comes from if wages don't catch up. While I would like to share Jerry's optimism about this matter, I guess I am with Don in believing that eventually wages do have to catch up even to make the wealth effect work.

CHAIRMAN GREENSPAN. Further questions for Don?

MR. JORDAN. May I respond on that?

CHAIRMAN GREENSPAN. Please.

MR. JORDAN. That is not clear to me if part of the manifestation of the wealth effect on the part of the work force is in their rights to future consumption that is contained in their pension plans, their 401(k) profits, or whatever.

MR. GRAMLICH. If they have savings.

MR. JORDAN. Their claims on future streams of consumption rise and that does not necessarily have to pass through a paycheck.

CHAIRMAN GREENSPAN. Anything else? If not, let me begin.

I think the evidence that the expansion is slowing to a certain extent is pretty much unambiguous. Usually, a useful clue to watch is the relationship between short-term forecasts of statistics that get published against the actual outcome to see whether the outcomes are

higher or lower. We have had a fairly significant run of outcomes that have fallen below the forecasts, and that usually is an indication that something significant is occurring. In the home building area--I think with the exclusion of the home mortgage application numbers released by the Mortgage Bankers Association, which belie everything else we are observing in the housing sector--there is a fairly uniform characterization of the housing market as clearly negative and continuing to erode except in California. The rise in mortgage interest rates is beginning to exert an effect in large part because of the flat yield curve. In the past, ARMs captured a lot of homebuyers who were ready to accept lower short-term interest rates and take the risks involved in that. But the option of lower rates is no longer available because the current rates on ARMs do not differ significantly from those on fixed rate mortgages.

Demand for motor vehicles clearly is easing, especially after adjustments for incentives. Part of the explanation doubtless stems from the gasoline price increases, but I think there is more to it than that. There has been a general view that motor vehicles are proliferating to the point where the number of vehicles per household is exceeding the number of people in the household. I'm sure that is false, but it sounds right! Another way of putting it is that we are inadvertently converting a goodly part of our highway system into parking lots, and once complete gridlock occurs no one is going to be able to find a way to unwind it. That leads me to the household inventory issue. It has been raised in the Greenbook on successive occasions, and it may very well be starting to exert an effect in the sense that the buildup of inventories of durable assets held by households is beginning to have a feedback effect on consumption. This would be consistent, obviously, with a flattening out of the wealth effect. The data for a slowdown in consumption outlays are fairly conclusive in that not only are sales of motor vehicles going down, but the weekly chain store figures have been flat since the second or third

week of May. If anything, the chain store numbers display a slight downward tilt, and they imply that the consumer inventory problem may be affecting the market for consumer appliances as well as that for motor vehicles.

What we tend to get as a consequence of the household inventory adjustment process is that as final demand for consumer durables softens, we expect to see the effect filter down to the underlying industries of the old economy. And to be sure, steel production is down. The incipient evidence of appreciation in steel prices has turned around. Notions held by a number of old economy producers that they were gaining pricing power seemingly have stalled. We are getting the type of economy which, were it not for the underlying high-tech momentum, would correspond to the early stages of what we would usually begin to worry about as a recession.

As an aside, I ought to point out that in the old days we used to worry about more recessions than actually occurred. The National Bureau of Economic Research identified numerous peaks during cyclical expansions that never turned into recessions so they are not official peaks. In other words, if we look at the NBER charts and are not given, say, 12 to 15 months of hindsight, we will identify about three times as many "cyclical peaks" as recessions that actually emerged. We clearly are experiencing one of those phenomena now.

In any event, I think the evidence of an actual recession at this point is belied by the fact that there is no evidence of which I am aware that suggests any significant deterioration in productivity growth. Indeed, even the evidence that there is a decline in the second derivative--we will get to the third derivative very promptly [Laughter]--is not conclusive by any means. Long-term earnings expectations of the security analysts, which we presume reflect the views of corporate management, have not diminished. Indeed, they continue to move up for both the high-tech and the old economy firms. Actually, there has been a slight downward tick in long-

term earnings expectations for high-tech firms, but it is very small considering the fact that the stock prices for that sector have come down so markedly. Presumably, that market decline did damp some views of future earnings, but there's very little evidence of that in the data.

The orders coming into the capital goods companies--high-tech, intermediate-tech, whatever--have remained very strong, and backlogs continue to build. Incidentally, in a certain sense there is no low-tech equipment anymore. One would be hard pressed to find any old type of equipment that is not infiltrated with various kinds of microprocessors and other high-tech components. Even the old weaving loom in use today, which goes back to the beginnings of the Industrial Revolution, would be unimaginable to textile workers of 50 years ago. It is a wholly different piece of equipment. In fact, there are no sizable numbers of textile workers anymore. Their work is all automated. What we have are software writers and computer operators, and the whole production process just basically runs. But as I said, what we find is that the backlogs are still building up in the capital goods industries. What that essentially says is that the prospective rate of return on new facilities must still be high ex ante, if not rising, or else people are just making investments with no reasonable judgment as to their basis.

These high earnings expectations are held not only by domestic producers but by foreign investors as well. The reason is that if the rate of return were not holding up in the United States, the dollar would surely be under very significant downward pressure, given the signs of the growing current account deficit. So in a sense, the strength of the dollar is an indirect piece of evidence that prospective rates of return are holding up and are in fact fairly substantial and solid.

This leads to a very interesting set of possible outcomes. What we have in the Greenbook in this context is not only slow economic growth but also slowed multifactor

productivity and as a consequence slowed labor productivity. The latter effectively keeps the unemployment rate down in the context of a slowing rate of GDP growth. This scenario is consistent with the beginning of a rise in both unit labor costs and the NAIRU, which we discussed yesterday, and that is what is creating an upward set of pressures on prices. The alternate scenario is that we are indeed seeing some slowing in the expansion of demand largely because of the wealth and the consumer stock adjustment effects. But it is also perfectly conceivable that after the fact we are going to find that multifactor productivity did not go down, that labor productivity growth did not slow down, and that indeed the unemployment rate went up--not a great deal, but some. But that behavior would be consistent, depending on how one views the NAIRU effect, with a different price forecast.

At this particular point I would say that I know of no evidence that conclusively would suggest which of those two scenarios is true. Successive Greenbooks have been continuously forecasting a decline in multifactor productivity growth. And accordingly, since the capital investment has been pretty clear-cut and therefore capital deepening has been very easy to forecast, we end up with a forecast of slowed productivity growth, a slowed rate of economic expansion, and accelerated inflation. That slowdown hasn't happened. Multifactor productivity has been running at a fairly strong pace and, if anything, has been rising. As a consequence, we have two potential scenarios here. And while the structure of the model that we employ for the Greenbook necessitates only one outcome, I submit that it is quite possible to reconfigure the structure of the model, depending on one’s view of how the real world actually works, and come up with the second alternative. In fact, I know we can do that, but I don't think we can realistically make a judgment about which of the two scenarios is accurate. I suspect we may not be able to until after the fact.

Given that uncertainty, and echoing some of Don Kohn's remarks, I think we have a fairly substantial amount of monetary tightening still in the pipeline, at least if we believe what we say about the lags and if a goodly part of the softening that has occurred in the economy to date is only modestly related to our monetary policy tightening. There is no question that the increase in fixed rate mortgages has been a crucial element in housing. It is not clear that it has been a big deal in motor vehicles, although there is some anecdotal evidence, which suggests that buyers are backing away in part because of financing costs. But I am suspicious of that as being the crucial issue in the market for motor vehicles. Gasoline prices obviously are something we haven't focused on, but the implicit reduction in effective disposable income associated with the rise in gasoline prices is just too large to be disregarded. So a number of forces can be identified that are slowing this expansion prior to advertence to monetary policy considerations. And if monetary policy still has a backlog of tightening effects that could be quite significant, it strikes me that, owing to the uncertainty surrounding the potential outcome we have in front of us, the wise move at this stage is basically to do nothing today.

No matter what we do, I believe it is utterly essential that we retain a statement in our press release expressing our view that the risks remain unbalanced toward conditions that may generate heightened inflation. Given how we all weigh the prospects for various outcomes, the probability that we are through tightening in this cyclical expansion has to be less than 50-50. To be sure, that probability is higher than it has been. It certainly is higher than it was at the time of the last meeting or the meeting before, but we are nowhere, as far as I can judge, up to even money on this. And until we get there I think we should be very careful about suggesting in any way that we might be at the edge or even contemplating that our move at the last meeting was our last in this cycle. Vice Chair.

VICE CHAIRMAN MCDONOUGH. Mr. Chairman, I support your recommendation.

CHAIRMAN GREENSPAN. President Poole.

MR. POOLE. Mr. Chairman, I support your recommendation. The futures market has built in another 1/4 point at our August meeting. I believe that is a reasonable bet at this time, but I think the data over the coming weeks will decide that issue and the market will move rates in the appropriate direction.

CHAIRMAN GREENSPAN. Governor Ferguson.

MR. FERGUSON. Mr. Chairman, I support your recommendation. I think we have done a great deal of work thus far and it is not unreasonable to take a pause, given the degree of uncertainty and the other factors to which you have alluded.

CHAIRMAN GREENSPAN. Governor Gramlich.

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

CHAIRMAN GREENSPAN. Governor Kelley.

MR. KELLEY. Mr. Chairman, I support the recommendation. But I would like to add that I hope the statement we release to the public will be quite strongly worded. I think this recommended action is exactly what the market consensus expects and I would hate to see an overly euphoric reaction to it, which I believe is quite possible. We may indeed need to tighten more--perhaps quite soon and perhaps by a considerable amount. And I hope we put the market very clearly on notice to that effect.

CHAIRMAN GREENSPAN. We can do that in one of two ways--either in a statement, which presumably would be merely a reiteration of our previous remarks, or in the Humphrey-Hawkins testimony, where we can surely fine-tune it.

MR. KELLEY. However, I would like to see a statement today that is a little stronger than the words we have used in the past.

CHAIRMAN GREENSPAN. I'm not sure I would agree with that for lots of reasons, but let's hold that and see what the rest of the Committee members say.

MR. KELLEY. Fine. I just want to put it on the table.

CHAIRMAN GREENSPAN. Okay. President Parry.

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

CHAIRMAN GREENSPAN. President Moskow.

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

CHAIRMAN GREENSPAN. President Stern.

MR. STERN. I don't see any reason to deviate from the pattern! [Laughter] I support the recommendation.

CHAIRMAN GREENSPAN. Governor Meyer.

MR. MEYER. Mr. Chairman, I support your recommendation, too. I should note that this was the position I felt comfortable with as I went home for the weekend. And when the Bluebook came and I opened it, I found that it was sort of arguing with me and questioning whether I should feel comfortable with that decision, given my views. It noted, for example, that this position would be appropriate if I wasn't sure that inflation would intensify going forward. I guess that depends on what we mean by "sure." That is a word that forecasters are loathe to use under any circumstances. But I do think that inflation is more likely to rise. The next thing the Bluebook said was that this position would be appropriate if I was less convinced than the staff that output is beyond potential. Well, I am at least as convinced as the staff that output is beyond potential. So I am certainly struggling with this.

Then, as if that wasn’t enough, the Bluebook went on to say that if you want to take the view that interest rates should go up you should hold the following views: First, that indications of slower expansion are still tentative. Okay, I believe that. Second, that resource utilization is still quite high. Well, I believe that, too. Third, that some of the earlier financial restraint has been unwound by the recent rally in bond and equity markets. That is factually true. And fourth, I should be in favor of tightening especially if I believe that growth may have to slow to below trend to unwind the prevailing excess in the labor market. Well, I believe all those things, so I did have to struggle more than most with this decision.

I don't put extraordinary weight on what goes on at one meeting. I think getting the direction and the overall response right is what is really important. So, I can feel comfortable with holding pat today because we have moved so decisively since last June and also because I believe that the data are likely to show the wisdom of moving further perhaps as early as by the next meeting. And given what we have done in the past, I am confident that we will do what needs to be done at that time and get it done in a timely fashion to insure a favorable outcome.

So, I support your recommendation with the confidence that we have taken steps to mitigate the risks of higher inflation, but also with the belief that our work is not yet done.

CHAIRMAN GREENSPAN. President Minehan.

MS. MINEHAN. I agree with your recommendation, Mr. Chairman, particularly the part that keeps the Committee on record both in the press statement and in the Humphrey-Hawkins testimony that the risks are still on the up side. I agree with Governor Kelley's point on this, although I would be a little concerned about changing the wording of our statement much because the market seems to overreact and overanalyze every word we put in there. So, I

think it is probably better to stay with a stable set of words and allow you to fine-tune the message in the Humphrey-Hawkins testimony.

I happen to believe that the recent data with regard to the slowing of the economy are perhaps a little less definitive than some around the table may believe. I also have some level of concern about the employment data. And I agree with you totally that it is impossible to discern which of your two models accurately reflects what is going on now because I don't think we know conclusively whether the unemployment rate is going up or down. Everything we see in the markets based on real-life experience would suggest that the labor markets are just as tight as they have been and that the unemployment rate, if anything, is going down, not up.

In any event, I was concerned coming into this meeting that if we thought inflation was likely to rise in the future, we would be better off acting sooner rather than later because appropriate early action tends to ameliorate the longer-run effects. But I don't see any difference between moving now or moving at our August meeting, and by August we will have a lot more data. So, I agree with your proposal.

CHAIRMAN GREENSPAN. President Broaddus.

MR. BROADDUS. Mr. Chairman, if I could take a bit of time here, I would like to look more closely at the Bluebook's baseline forecast. I found it very helpful in trying to think through the longer-run implications of what we do today. I think it's important that we do that. The baseline is not the only scenario, but it is a plausible scenario and it has implications that I think are important and not terribly comforting. The baseline takes as a starting point that the economy is currently operating above its potential and it assumes a NAIRU over 5 percent. Obviously, that is questionable. You questioned it yesterday, and that is perfectly reasonable. But there is certainly a good chance that there is a NAIRU that we should be thinking about

analytically in making our decisions and that it is, in fact, above 5 percent. So I believe we need to consider carefully what the economic outcome of that assumption might be. And we also need to consider the cost of that outcome, even if the likelihood of it is now lower than it may have been before. So if we just accept that provisionally and follow the baseline, the idea is that we have been able to operate below the NAIRU up to now because rising productivity growth has made it possible for firms to increase wages without pushing up unit labor costs.

Now, productivity growth could, of course, keep rising and that would tend to bail us out, if I could put it that way. But in a mature economy like this, I think it would clearly be unwise to make that assumption. The baseline scenario does not make that assumption. It assumes that trend productivity growth continues at its current rate for the rest of the decade, which would mean at some point fairly soon an increase in wages and presumably in unit labor costs would emerge. In the baseline case then, this implies that the unemployment rate has to move up toward the assumed 5-1/4 percent NAIRU just to keep the core PCE from rising above 3 percent. And for that to happen, in turn the real funds rate has to go up a percentage point.

To summarize: That baseline, which again I think is a plausible scenario, has us raising the nominal funds rate almost 2 percentage points at a time when the unemployment rate is rising sharply. And even that doesn't really hold the line on inflation because inflation moves up close to 3 percent and obviously could go higher. So this baseline scenario, a carefully worked out analysis, with a certainly plausible and possible outcome, is not very comforting. And it will be difficult to pull it off, I think, because it requires us to raise the funds rate significantly at a time when unemployment is rising. The bad news in my view is that if we are dealing with the situation assumed in that scenario, then we really do run the risk of finding ourselves behind the curve both with respect to actual inflation and with respect to inflation

expectations. That could at some point force us to take strong action, which could put an end to this expansion. So there is a lot at stake.

Quickly, what are the options? One is we could wait maybe not only at this meeting but even longer and hope to get rescued, and that is certainly possible. Productivity growth could continue to rise. Also, we have higher credibility now and the NAIRU may well be below 5 percent. All of those things are possible and also plausible. But my own view is that if we accept that hypothesis and follow that option, perhaps we ought to supplement it with a word of prayer from time to time! [Laughter]

Our other option, as I see it, is to be more preemptive and raise the funds rate more aggressively before unemployment begins to rise. Markets now appear to expect a funds rate approaching 7 percent at the end of the year. Early next year we could move it up closer to, say, 7-1/2 percent, and to some degree begin that process now. In that way we might shore up our credibility, keep inflation expectations from rising, and limit the amount by which we would actually have to increase the nominal funds rate over the course of the whole cycle. Obviously, this is not without risk. This approach could cause the economy to be weaker than it really has to be if the assumptions in that scenario are not accurate. But with the labor markets as tight as they are, that seems to me to be a risk worth taking. That's because--and this is really the key point for me--if we do fall behind the curve and inflation breaks out, then we are very likely at some point to be in a situation where we have to create a recession in order to restore price stability and our credibility. That means that we will go back to the stop/go monetary policy of years past, and I think that is the worst possible outcome.

So, I guess that's a long way of saying that I think a solid case could be made for a further move today. I can certainly accept your proposal and I understand the reasons for it.

But I would say that the primary support for that proposal has to do with the evidence of a slowdown. We do have a lot of data suggesting a slowdown, but I think the evidence is still quite preliminary so we have to be careful about how much weight we give it. I certainly think we need an asymmetric directive. I would make this point too: There's a long period of time before our next scheduled meeting, and in the month of July we will be getting a lot of additional information on the behavior of the economy in June, which will either confirm the earlier data or not. If some question arises, I think it would be particularly appropriate in this intermeeting period to have a call, maybe at the end of July or early August to take another look at the situation. I would hate to wait until late in August, a couple of months before an election, and find ourselves in a real bind. So I make that suggestion. Thank you.

CHAIRMAN GREENSPAN. President Hoenig.

MR. HOENIG. Mr. Chairman, I support your proposal. I don't know if we have moved as far as we need to, but I suspect that right now there are still a lot of monetary policy effects in the pipeline from the actions we have taken here recently that are not yet fully in play. We ought to let them work and observe where that is taking us. And as others have said, a lot of data will be coming in over the next several weeks that I think will provide us useful information from which to make a further judgment on the effects of our earlier tightening moves. One of the side benefits is that our press statement last time indicated that the balance of risks was on the up side and today we are not acting on it, and I believe that is a healthy thing to do as well. So, I think your recommendation is a very good one.

CHAIRMAN GREENSPAN. President Guynn.

MR. GUYNN. Thank you, Mr. Chairman. Let me just note very briefly--I should have added this yesterday, perhaps--that in our discussion of different models and various ways

of looking at how the economy is working at this time, I would have joined those yesterday who expressed some uneasiness about the NAIRU construct. Like our colleagues in Minneapolis, and I believe some from other Reserve Banks, we have been using a VAR model to try to gauge different inflation paths given different fed funds assumptions. Our modeling work suggests that the restraint we have already put in place is going to deliver an inflation path that is close to 100 basis points lower than we would have had without that tightening. We also ran an experiment last week after getting the Greenbook and we used the same amount of substantial additional tightening as assumed in the Greenbook. Our VAR model suggested that such an aggressive degree of further tightening would involve considerable risks to the real economy. So there are risks on that side as well, it seems to me.

I would join those who have underscored the importance of maintaining the bias in our balance of risks statement this time. As we have heard each other say, we are seeing not only the direct effects of the higher rates but maybe even more importantly a sense of caution and prudence among the people we talk to, as a result of the tightening we have put in place. And I think it is absolutely essential that we keep that in place and not lose it at this point. Thank you, Mr. Chairman.

CHAIRMAN GREENSPAN. First Vice President Stone.

MR. STONE. Mr. Chairman, I support your recommendation. Particularly in light of the action taken at the last meeting and also because the forecast of long-run expected inflation has remained stable, I think we have time to take a look at whether the economy is truly slowing at this point. Thank you.

CHAIRMAN GREENSPAN. President Jordan.

MR. JORDAN. Thank you, Mr. Chairman. For this meeting I support the recommendation for no action. And in line with the Vice Chairman's remarks yesterday, if a recommendation to raise the federal funds rate--whether at this meeting or a subsequent meeting--had an underlying objective of raising the unemployment rate or opening up a gap between potential output and actual output, I would oppose that. I think it is too easy for these kinds of exercises and scenarios derived from models to become objectives, if not of the Committee at least in the minds of some observers. I cannot imagine Chart 3 of the Bluebook appearing in the monetary policy report to Congress. I simply cannot picture the reaction if that chart were to be included in such a document. Like Governor Meyer, in reading the Bluebook I tried to find out what it was telling me regarding what position I should take. With regard to inflation objectives, the Bluebook tells me that at this meeting I should support a 50 basis point increase in the funds rate with an announcement--in line with President Poole's remarks at previous meetings that it is not nice to surprise the markets--that we will increase the funds rate by another 50 basis points at each of the subsequent four meetings this year because we plan to raise the funds rate to 9 percent by December. Now, the reaction to that would be chaos in the financial markets. We would not produce the results indicated if we did that, of course. No model would tell us what results we would get because we can't forecast what would happen if we were to announce to the market 250 basis points of additional tightening between now and December. So, I don't know what use the exercise is in guiding me as to what position I ought to be taking to support a price stability objective.

CHAIRMAN GREENSPAN. President McTeer.

MR. MCTEER. I agree with your recommendation.

CHAIRMAN GREENSPAN. Would the Secretary read the appropriate language?

MR. BERNARD. The language comes from page 19 in the Bluebook: "The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output. To further its long-run objectives, the Committee in the immediate future seeks conditions in reserve markets consistent with maintaining the federal funds rate at an average of around 6-1/2 percent." And the sentence going into the press release would read: "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. BERNARD.

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

CHAIRMAN GREENSPAN. Don, would you read the proposed statement?

MR. KOHN. I think Lynn Fox has the statement.

CHAIRMAN GREENSPAN. Do you want to circulate it?

MR. KOHN. Yes, we're going to circulate it. Why don't we just let people read it.

CHAIRMAN GREENSPAN. [Pause] Any comments?

MR. POOLE. Mr. Chairman, it would seem to me logical to take the third paragraph, which refers to the signs of slowing as being tentative, and put that right after the first sentence

of the second paragraph, which refers to real activity, and move the comment about core inflation down.

CHAIRMAN GREENSPAN. What is the view of the Committee on this?

SPEAKER(?). I like it the way it is.

CHAIRMAN GREENSPAN. Is there any support for President Poole's recommendation? Is this draft generally acceptable as it stands?

SEVERAL. Yes.

CHAIRMAN GREENSPAN. Thank you very much. It is a little early to go to lunch!

MR. BERNARD. Coffee is out there. Lunch will be served at noon. [Laughter]

END OF MEETING