Meeting of the Federal Open Market Committee
May 19, 1998

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, May 19, 1998, at 9:00 a.m.

PRESENT: Mr. Greenspan, Chairman
Mr. McDonough, Vice Chairman
Mr. Ferguson
Mr. Gramlich
Mr. Hoenig
Mr. Jordan
Mr. Kelley
Mr. Meyer
Ms. Minehan
Ms. Phillips
Mr. Poole
Ms. Rivlin

Messrs. Boehne, McTeer, Moskow, and Stern, Alternate Members of the Federal Open Market Committee

Messrs. Broaddus, Guynn, and Parry, Presidents of the Federal Reserve Banks of Richmond, Atlanta, and San Francisco respectively

Mr. Kohn, Secretary and Economist
Mr. Gillum, Assistant Secretary
Mr. Mattingly, General Counsel
Mr. Prell, Economist
Mr. Truman, Economist

Ms. Browne, Messrs. Cecchetti, Dewald, Hakkio, Lindsey, Simpson, and Stockton, Associate Economists

Mr. Fisher, Manager, System Open Market Account

Mr. Winn, Assistant to the Board, Office of Board Members, Board of Governors
Ms. Fox, Deputy Congressional Liaison, 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

Messrs. Alexander, Hooper, and Ms. Johnson, Associate Directors, Division of International Finance, Board of Governors

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

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

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

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

Messrs. Eisenbeis, Goodfriend, Hunter, Lang, Rolnick, and Rosenblum, Senior Vice Presidents, Federal Reserve Banks of Atlanta, Richmond, Chicago, Philadelphia, Minneapolis, and Dallas respectively

Messrs. Altig, Bentley, and Judd, Vice Presidents, Federal Reserve Banks of Cleveland, New York, and San Francisco respectively

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CHAIRMAN GREENSPAN. Would somebody like to move approval of the minutes for the meeting of March 31?

VICE CHAIRMAN MCDONOUGH. So move.

CHAIRMAN GREENSPAN. Without objection. This incidentally is the last meeting of our esteemed Governor Phillips.

MS. PHILLIPS. Yes, and I thought about that as I was reading Greenbooks over the weekend. [Laughter]

CHAIRMAN GREENSPAN. I'm sure it occurred to you, Susan, that you don't have to read them anymore! In any case, we will miss you. As you know, there is an official farewell luncheon at the time of the next meeting. We will withhold all our kind remarks at this point because we do not want to influence your vote this morning, one way or another.

MS. PHILLIPS. Thank you.

CHAIRMAN GREENSPAN. I think all of you are aware that Lynn Fox is trying to step into Joe Coyne's shoes, a task she is struggling with successfully, I hope. We welcome you to your first meeting.

Peter Fisher, would you take over please?

MR. FISHER. Thank you, Mr. Chairman. I will be referring to the package of color charts that should be on the table before you.[1]/ The first page shows the 3-month deposit rates including the current Libor, the 3-month forward, and the 9-month forward rates.

Looking at the U.S. panel, you can see that there has been little net change in these forward rates since your last meeting on March 31, but there has been a

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[1]/ Copies of the charts used by Mr. Fisher are appended to the transcript. (Appendix 1)

very modest uptrend since the nonfarm payroll release on April 3, when forward expectations troughed. So, we have seen a gently rising trend since early April, with a punctuation mark associated with the April 27 Wall Street Journal story.

Looking at the panel for Germany, you can see that forward rates had been drifting up at the time of your last meeting and they did not stabilize until after the EU summit on May 1-3 at which the president and the board of the European Central Bank were selected. That pattern is contrary to the expectations of many observers in the market. I think the earlier updrift was the consequence of the same factors that I have been talking about for some months. These include the perception of slightly stronger-than-anticipated growth in the German and other European economies that has been viewed as leading to a slightly higher probability that the Bundesbank might raise rates before year-end or that the ECB might establish a slightly higher opening rate next January than previously had been assumed.

The Japanese rates are shown in the bottom panel. You can see that the announcement of the stimulus package on April 9 and the foreign exchange intervention on April 9 and 10 had little impact on the forward rates, with the 9-month forward 3-month rate not moving at all on the announcement. I think that is worthy of note. However, on May 7 Deputy Governor Yamaguchi of the Bank of Japan commented that he saw more positive than negative effects from a rate reduction, and forward rates moved down a bit following his remarks.

Turning to the next page, I hope the Committee will find it worthwhile to bear with me while I try to go through some of the different components and ways of thinking about the Japan premium. I think this explanation might be helpful now. I will first go over the mechanics of the top three charts, and then discuss some issues and problems that come up. Let me say in advance that I am presenting this to show you how skeptical I am that we really understand the Japan premium phenomenon.

The first panel shows a measure of the premium in dollar terms. It is expressed as the spread between the Bank of Tokyo-Mitsubishi's 1-month Libor rate and Barclay's 1-month Libor rate. You can see that during the first quarter of the year, from the start of the year to the end of the Japanese fiscal year which also was the date of your last meeting, the premium averaged around 20 basis points, though it moved around a bit. That is the measure of the premium that most people were talking about. Since the end of Japan's fiscal year, it has moved down into the 9 to 10 basis point range.

The second panel with the green line is a crude, but I think still useful, measure of the premium in yen terms, which is expressed as the spread between 1-month Tibor and 1-month Libor. Tibor is the Tokyo interbank offer rate; Libor is the London rate. The Tokyo panel is made up almost exclusively of

Japanese banks. If you threw out the high and the low in that panel, you probably would eliminate the 1 or 2 western banks that are in it, so it would become an exclusively Japanese panel. Libor is overwhelmingly non-Japanese. If you threw out more of the highs and the lows, you would end up throwing out all the Japanese names that usually operate in Libor. You would end up with a measure of 1-month yen funding comprised mainly of non-Japanese banks in London and Japanese banks in Tokyo. That spread is important to underscore because it gives you a sense of the premium for the best Japanese names. It covers only the banks that everyone thinks are implicitly guaranteed by the government, not the smaller more anonymous banks.

The left-hand scale of the third panel measures the asset side of the Bank of Japan's balance sheet. The shaded blue area depicts the growth of assets. The right-hand scale refers to interest rates. The blue line is the overnight call rate; it recently has been mostly below the solid black line, which is the official discount rate.

Let me now go back over some of the issues that come up. First, it is worth noting that both the dollar and the yen premiums have come down quite a bit in recent days. It is quite noticeable that the dollar measure still indicates a premium in the 9 to 10 basis point range. One might ask whether this premium should be arbitraged out; it ought to be an easy thing to arbitrage away. But, of course, an investor would have to take on the credit risk implicit in doing business with Japanese names. What interests me is that when I talk to bankers, many of them will tell me very frankly that their credit lines to their Japanese counterparties are completely full. That is, their traders are taking maximum advantage of trying to capture this premium and arbitrage it. But the bank credit departments are now in charge on an individual trade-by-trade basis, and they are up against their limits. With that in mind, I find it quite impressive that the spread is still only 9 to 10 basis points--that even with greed restrained by credit departments, the spread is still in that neighborhood.

If you look at the yen measure, you can see that the premium has been squeezed down to 1 or 2 basis points at present. I believe it is important for us to ask whether we are looking at a single phenomenon that we can measure consistently from last fall. When we talk to Bank of Japan officials, they point to what they call the twin peaks of the premium--one prior to the calendar year-end and the other prior to the fiscal year-end. They view the premium principally as a liquidity risk, not as a credit risk. I would note, however, that the first peak occurred in late November when we began to see closures of Japanese financial institutions, bringing to mind a larger question of credit risk. Also, given the dubious quality of assets on the balance sheets of Japanese banks, this does not seem to be a very useful time to be drawing a fine distinction between liquidity and credit risks. A Japanese bank that cannot fund itself is really a credit risk to me if I am a market counterparty.

The third panel shows the growth in the Bank of Japan's assets. In our conversations, Bank of Japan officials explained what they were trying to accomplish when they were aggressively expanding their balance sheet around calendar year-end and fiscal year-end. By doing so through 1-month repos, they wanted to provide the market with a sense of confidence by injecting liquidity for a relatively long period. The growth of the asset side of their balance sheet depicted that. They are rather defensive about the low growth on the liability side of their balance sheet because they say that various measures they have been publishing for a long time are misleading. They actually have been draining reserves at times by issuing their own bills. That is, they issue their own liability on one side as a Bank of Japan bill, but they also drain reserves. That is a swap on the liability side and not really growth in the balance sheet. In any case, these transactions have not given me much confidence.

I will offer you my own interpretation, my words not theirs. It seems to me that for the last six or seven months, they have been doing something of an "operation twist" at the very short end of their yield curve. They have been intervening in the 1-month interest rate area, pushing money out. Then, because they target the call rate and try to keep it in the neighborhood of the overnight discount rate, they have been draining funds out of the shorter end--overnight and for two or three days at a time--against the backdrop of the overall expansion of their balance sheet. That leads me to the tentative conclusion that when I look at the yen funding premium, I am not measuring a single consistent phenomenon expressed on the demand side. That's because, overall, there has been a net increase on the supply side of the money market. But at the margin, it makes me even more nervous to think that they really have been price-targeting the 1-month interest rate to push it down while draining funds out overnight to try to keep the overnight call rate close to the overnight discount rate. If I am right about that, then interpreting the premium is even more complicated than I thought. I believe the risks of a sudden backup going forward, if there is bad news, are even greater.

The bottom panel is a place holder to show you widening corporate spreads, expressed in some Moody's indices that we found, over comparable Japanese government securities. I think this panel is interesting for three reasons. First, many people talk about the fact that they cannot find deteriorating credit spreads in markets in Japan. They suggest that Japanese markets do not work that way, that they are not Western, but we can see the deterioration quite clearly in this chart. Secondly, these widening spreads are those of the banks' customers, and things are getting worse and worse for them. Finally, I think it is a useful reminder that we are approaching the Japanese bankruptcy season. The bankruptcies do not actually occur at the end of the fiscal year; they take place later when the fiscal year results have to be made public. Much the same thing happened in November of last year when we began seeing reports of

bankruptcies relating to results in the fiscal half year that ended September 30, 1997.

Turning to the next page, let me briefly note some of the dollar's movements. You can see in the top panel that the Japanese government stimulus package did little to improve market sentiment toward the yen, and perhaps the kindest thing one can say about the of intervention they carried out on April 9 and 10 is that it had only a transitory effect on the exchange rate. Over the last month, many market participants have been full of brave talk about dollar/yen going to 150 and 160. When we ask them why it is not there already, they express a strong conviction but they do not make a very persuasive case. Even so, since the close of the G-8 summit this weekend and the absence of compelling talk about intervention, the yen has been weakening against the dollar for the last two days, bumping up through what the market thought was the very significant 135 level.

On the mark side, for all the fireworks involving the personalities at the EMU summit on May 1-3, I think one should not ignore that the summit did make a certainty out of EMU when previously there was at least a one-in-a-hundred chance that the process would be delayed or derailed. The removal of that uncertainty has made the mark rather more significant as the predecessor of the euro. We can see some slight firming of the mark. But overall, except for the slight uptrend of the dollar against the yen since February 1, what impresses me about this panel is how very little has happened to the dollar in 1998. We have had shifting expectations regarding Committee policy, sharp fluctuations in equity markets, crises in Southeast Asia and in the world's second largest economy, and an historic monetary union in Europe. Taking a step back, this panel suggests to me that the dollar has been out on a Sunday stroll.

In the bottom panel, you can see that Treasury yields have tracked the movements in short-term expectations shown in the upper panel of the first page of these charts. These yields have changed very little on net since the date of your last meeting, but there has been a gentle uptick since the nonfarm payroll release on April 3. I have talked to a number of traders and speculators who complain rather loudly that there is not enough volatility in this market for them to make money.

Let me turn to our open market operations on the next page and give you an update on the tax inflows in April and May. In the top panel, you can see that the Board and New York staff forecasts for second-quarter receipts converged at the higher level, closer to the New York numbers. In the chart below, you can see that this did not help New York very much in forecasting the daily reserve levels. As the red line shows, the actual balance came in much closer to the Board's estimate than to New York's, which is a good lesson in the difficulties of making daily forecasts.

The first reason for this is that receipts did not come in as strong or as early as the staff in New York was forecasting. This is indicated in the first notation line at the bottom of the page. The first row of numbers, which shows total actual Treasury balances less the New York forecast, indicates how far the actuals came in below our daily forecasts, particularly early on. But the gap narrowed quite a bit as we got into late April and early May.

The second reason why it was so difficult to forecast the day number is that on April 17 the Treasury announced some changes to the TT&L program that were designed to make it more attractive to banks. While we had been working with them on this and are very supportive of these changes, the timing of their announcement frankly took us, the market, and the Treasury's own forecasters by surprise. As you can see, the notations in the bottom row show how much this affected our own day numbers by indicating the extent to which the TT&L accounts were holding higher balances than we were forecasting, meaning lower balances at the Reserve Banks.

The next page shows various indicators of trading activity in the fed funds market since your last meeting. The vertical blue lines are the daily ranges of the federal funds rates; the horizontal red lines or ticks are the effective averages for each trading day, and the vertical red lines each represent one standard deviation of trading around the daily effective rates. The increase in TT&L balances at major banks may have been one of the factors contributing to the softness in the funds market in the middle two maintenance periods; the increase substantially reduced rather suddenly the purchasing needs of some of the major banks that often are active in the morning. More importantly, demand for excess reserves appears to have shifted lower, particularly during the April 22 and May 6 maintenance periods, a development that we do not yet fully understand. Moreover, banks apparently were able to use positive carry-ins from the April 22 period into the May 6 period to a much greater extent than we previously viewed as the norm. That may be the result of little more than a random distributive effect or it may be something more profound; we do not yet know.

The softness in the funds market in the May 6 period, I think in looking back, reflected a combination of this apparent shift in demand for excess reserves and our desire to remain symmetric with respect to the risks on each day. To put this somewhat more precisely, even as we became aware that bank demand for excess reserves was lower than we had expected, we were reluctant to pare back the cumulatively higher excess reserves because to have done so would have required aiming for quite a low daily excess number. Moreover, this would have occurred at a time when the absolutely high level of Treasury balances at the Fed meant that a small percentage point miss in the Treasury balance estimate could have completely drained the funds market and left us with a very negative day number and a big surprise on the upside. However, based on this experience, we revised down our assumption about period

average excess reserves by $200 million to $1.2 billion. I think excess reserves are going be very much a moving target for us.

Finally, we had no foreign exchange operations to report for this period. I will need the Committee's ratification of our domestic open market operations. I have distributed to the Committee a memorandum on proposed changes to the securities lending program. I am not seeking a Committee vote at this time, but I would like to share the details of these proposals with the primary dealers and I did not want to do so without giving Committee members an opportunity to react first. I would be happy to answer questions about my report, our operations, or the securities lending memorandum. Thank you.

CHAIRMAN GREENSPAN. Questions for Peter?

MR. BOEHNE. On the proposed changes to the securities lending program, you indicate in the memo that you plan to use a noon auction. What are your thoughts about lending in times of stress? Would you have to supplement that noon auction later in the day? Why noon? Why not 1:30 or 1:00 p.m.? How will you deal with problems of demand after noon?

MR. FISHER. Noon is rather late in the cycle of daily trading and clearing in the market. The book entry side of the wire closes at 3:00 p.m. We want to try to provide some elasticity to both the trading and the clearance functions of most major firms. A noon auction would enable them to get their results around 12:30 p.m., and that is already a little late in the day. How we would respond in a period of acute stress is, I think, a good question. I would emphasize that if the market knew securities were to be auctioned at noon and they could look forward to relying on that auction on days of some stress, that might help to comfort them. Beyond that we have considered two possible approaches. One might be to announce early in the morning a change in the limits for the noon auction, which might provide some additional comfort. I would begin by using that device in a period of particular stress. Another possible approach would be to hold the auction earlier in the morning in such circumstances.

In terms of selecting a routine time, however, we are trying to pick a slot that is in between our operations, Treasury auctions, and other noise in the markets. As a routine matter, noon seemed about as good a bet as we could find, but we would have to remain flexible in thinking about the timing of our auction if we were responding to a particularly acute problem.

CHAIRMAN GREENSPAN. President Hoenig.

MR. HOENIG. Peter, I have read your memo on our securities lending program. Just for my benefit, perhaps, is there some compelling reason for the Federal Reserve to be lending on a daily basis? Is there fear of a market failure? I know we have increased our lending in certain crises, but I am a little unclear as to why we should expand our daily lending of securities as you propose. It is not clear to me what sort of market inadequacies we as a central bank should be trying to remedy. Is there a problem in the securities market that is impeding smooth trading activity whose resolution would be facilitated by this expanded program? I would appreciate your clarifying that for me.

MR. FISHER. Obviously, if we state the problem in the extreme form of market failure, it is hard to point to a market failure. What I would emphasize is that we rely on the very smooth operation of this market because it is the vehicle for our principal policy tool. I think that is why, in looking back through years and years of memoranda and reports on this issue, we see a consistent concern from the Fed's point of view about making this market work efficiently. A number of central banks do not rely as much as we do, almost exclusively, on our own government debt to comprise the asset side of our balance sheet. We are the "hog" of the government securities market. We hold about a third of the bill issues and a rather significant portion of the longer-term obligations--10, 15, 20 percent of individual issues as we move along the yield curve. So, it is in our interest to make this market function as smoothly as possible. The market certainly views us as

a large holder of these instruments. The initial System securities lending program in the late 1960s was established in response to the request of the dealers, and our proposed revision is also a response to the dealers who claim that the existing program no longer works. We are in a period of declining debt issuance by the Treasury, and the stresses in the market feel particularly acute. All that said, I think it is very important to emphasize how much on the margin of the market we should try to position our program. We will be a very small part of the securities lending market even at the higher proposed limits--our share will be a single digit percentage. There is a vast securities lending market that we think works well. The question is whether we are part of the problems that exist and whether we should be part of the solution to getting more efficient clearing.

MR. HOENIG. Does it require that you go in on a daily basis to provide this "marginal" help, if that is the right word?

MR. FISHER. I would prefer that we be predictable and transparent in the rules under which we operate. We thought long and hard about trying to design a more discretionary program where we would just respond to dealer needs. But that began to feel more like intervention in the "specials" market. It was very hard to see how we could get comfortable if we established rules of the road that involved decisions about whether to make securities available for lending today or some other day. It seemed most effective and most efficient and most transparent to say, here is what a dealer is able to do every business day of the year. In acute circumstances, we could change some limits if there were to be, say, another Drexel Burnham. But normally, we will try to be transparent, predictable, rule-based, and let the market come to us through a price mechanism.

MR. HOENIG. I can see utilizing this for a situation involving a Drexel or some kind of strain, but being there constantly on a daily basis seems more than necessary. That is my reaction to it. I am not an expert, obviously.

MR. FISHER. We have been in the business of lending securities on a daily basis for 30 years.

MR. HOENIG. Right.

MR. FISHER. We get requests every day, which essentially end up being rationed on a first-come, first-served basis and very small amounts being lent with great awkwardness. The last time I spoke to the Committee about this, I indicated how uncomfortable I was with our rule of lending only to dealers who were not short. It is a nice idea, but we just cannot enforce it. I do not even have a fig leaf of protection here.

MR. HOENIG. Okay.

MR. FISHER. I admit that I am stuck. We have been in the business of lending securities for a long time, and we would have a problem if we tried to get out of it now. I think the dealers and the Treasury would raise a hackle.

MR. HOENIG. I take it that you feel more comfortable going to a price constraint rather than depending on the current quantity limits.

MR. FISHER. I'm proposing going principally to a price constraint with some quantitative limits. One reason I want to have a concrete proposal to show the dealers is that I anticipate a spectrum of opinions. There are some who will think this proposed program is great, but others will say that it is not a good idea and that it will jeopardize the securities lending business. We want to hear about that so we can see if there is anything we can do to address legitimate concerns. I think this is the best way to approach a new program. I want to underscore

that on both the quantity limits--the totals per dealer and per issue--and on the 150 basis point spread, I think we are going to learn from experience and we will adjust going forward. The quantity limits and the spread may be too high or too low to enable us to adhere to the principle of operating only on the margin of this market. The Treasury is also very interested in making sure that we keep our securities lending operations on the margin and that we do not become too important a part of that market. We are going to have to watch that very carefully.

MR. HOENIG. Your words were subtle. Is the Treasury comfortable with this?

MR. FISHER. Yes, they are comfortable. They support, as I said, our going forward. There is some delicacy in that it is our program and not theirs. This function is right on the edge of both open market operations and debt policy. They see some risk that while we could generate additional revenues from the new program, of which they are the ultimate beneficiaries, we might squeeze out more of any market price premium than we generate in added revenues. I don't think that's likely to happen, but it is something we and they will be watching.

CHAIRMAN GREENSPAN. Vice Chairman.

VICE CHAIRMAN MCDONOUGH. Peter, could we go back to your discussion of what the Bank of Japan has been doing? I think we all agree that they are dealing with a troubled banking system. The Bank of Japan now has a significant amount of bank paper on the asset side of its balance sheet. So, if we had a bank failure in Japan, one of the interesting things that would happen is that a fair bit of paper from the bank that collapsed would be in the asset structure of the Bank of Japan.

MR. FISHER. Yes, that is another feature I did not mention. You can see that in their balance sheet. I don't have the figures in front of me, and I'm not sure it is an overwhelming number. But, yes, there has been a certain amount of credit substitution that the Bank of Japan has

arranged largely by issuing its own bills while it has added reserves principally by taking in private paper as well as government securities. I should not say "principally by taking in private paper." They have been taking in a fair amount of such paper in addition to Japanese government bonds. So, they have ended up with more customer or bank paper on their balance sheet and have put out their own credit into the market. A number of traders in Tokyo have noted that it seemed to them that the Bank of Japan was caught in a dilemma. Having taken in private paper, if they disgorge it now, very strange things may happen to the prices and yields that private entities in Japan get on such paper.

MR. TRUMAN. Isn't this one instance, President McDonough, where that bank paper is covered by the implicit guarantee of the government? Actually, the Bank of Japan itself has substantial profits, so I think it could absorb sizable losses. The first recourse might be that if a bank failed, the creditors would be made whole by the government, as has happened in all the other bank failures, and then the Bank of Japan would be made whole, too.

VICE CHAIRMAN MCDONOUGH. My policy problem is that, since they seem to have fully refloated the convoy system with 19 banks now limping along in the convoy, part of the fuel in each of the ships currently is supplied by the Bank of Japan. Even though the Bank could absorb the shock financially, this is another reason why they would be inclined to say, if the condition of one of those banks did not look so good, that they did not want the additional public disgrace of acknowledging a write-off on their balance sheet. They would therefore want to keep the bank afloat, which is a further step in the direction of not resolving the problems in their banking system.

MR. FISHER. I don't have any evidence of this other than anecdotes in the market, but the impression in the market is that the private paper the Bank of Japan is taking in is not of the

top 18 banks but of the lower tiers. As I see it, this makes it a slightly bigger problem. The Bank of Japan may have an implicit guarantee for the whole financial sector. We may yet get a financial shock there, but I think it is more likely to come from the hinterlands, as it were.

CHAIRMAN GREENSPAN. President Minehan.

MS. MINEHAN. Just a follow-up question. You are referring to bank paper and not to bank customer paper?

MR. FISHER. As I understand it, it is a mix of both. It is similar to what we take in at the discount window.

MS. MINEHAN. The recommendation for some time has been for them to distinguish between bad banks and good banks in their efforts to resolve their financial problems. Is the Bank of Japan becoming the bad bank?

MR. TRUMAN. I don't think it is insolvent!

MR. FISHER. That's an interesting way of putting it!

CHAIRMAN GREENSPAN. Do they take in collateral on this paper?

MR. FISHER. Yes, they are taking in some.

CHAIRMAN GREENSPAN. So, it is collateralized.

MR. FISHER. The collateral is the private paper. It is like our discount window. If we take in a "Trump" note from a bank, our collateral is--

CHAIRMAN GREENSPAN. As Ted says, it is government paper. Let me ask you this because it is an interesting issue. Can you conceive of a problem emerging in that respect?

MR. FISHER. I think Cathy Minehan is pointing to a real problem, Mr. Chairman. At the margin, that is the direction. I'm not sure one would assert that the Bank of Japan is now the

bad bank for the banking system, but as people now talk about it in Tokyo the marginal change seems to be in that direction. That is what I am reporting.

CHAIRMAN GREENSPAN. It is getting scarier and scarier. At least, I am getting more scared.

MR. TRUMAN. I think it is fair to say that there are other mechanisms to take over the really bad paper. In some sense this occurs when they actually resolve institutions. It's not clear to me exactly what has happened when institutions that failed were taken over by one of these resolution banking organizations. That is where the bad debt of these resolved banks ends up, although obviously some of it is on the Bank of Japan's balance sheet. Actually, their advances have gone up and down, which suggests that there have been mechanisms to delay some of that in order to allow time to seek other arrangements. The advances got quite large in certain periods, in the fourth quarter in particular.

CHAIRMAN GREENSPAN. Further questions?

VICE CHAIRMAN MCDONOUGH. Move approval of the domestic operations.

CHAIRMAN GREENSPAN. Is there a second?

MS. MINEHAN. Second.

CHAIRMAN GREENSPAN. Without objection. Mr. Prell.

MR. PRELL. Thank you, Mr. Chairman. I might call your attention to the housing data that were put at your places this morning. I won't go into that at any length. Let me just say that the single-family housing starts and permits data were very close to our expectations, while the multifamily starts were on the low side and really surprisingly low given the trend in permits. Multifamily starts are of lesser importance in dollar terms, and we would also expect to see some bounceback. So, on the whole, I think these data do not represent a significant departure from what we had in the Greenbook for residential construction activity.

We have seen some astonishing economic data since the last meeting, and we have worked hard to make sense of them. In the end, what we have

presented to you in the Greenbook is a forecast that, from the current quarter on, looks much like the prior version in terms of both growth and inflation. I hope that this is not simply because we are unimaginative or stubborn, but rather because we have shown good judgment in processing the various surprises that came our way.

For some of you, the central question probably is how we could have looked at a first-quarter GDP increase that we now estimate at more than 5 percent, along with April's 4-1/4 percent jobless rate, and still not have come up with a scarier price forecast. I will focus my remarks on that question, with the expectation that I will end up addressing some of your other concerns along the way.

First, there is no doubt about it: The first quarter was a stunner. As you may recall, I did say at the last meeting that it would not be a shock to see the forthcoming expenditure data come in strong enough to push the GDP growth rate a point or two above our 3 percent prediction. But, at the time, we knew only about the huge increases in payrolls in January and February; I would have been more conservative if we had known that employment had declined in March.

In any event, the incoming spending data prior to the April 30 release of BEA's advance estimate really did not prepare us for a GDP number as high as the 4.2 percent they published. The major surprise was their big inventory component. It was not a matter of their writing down a questionably high set of assumptions for the missing March data. They did not. Instead, it was mainly the translation of the available book-value data for January and February into real terms. We talked with the BEA staff who did the calculations, and we could not find any flaws in their methods.

That said, though, $67 billion of nonfarm inventory investment still looked awfully large to us, coming as it did on the heels of a similarly high rate of accumulation in the fourth quarter. It seemed odd that stocks could be piling up so much more rapidly than final sales without our hearing more reports that firms were concerned about excess inventories.

All things considered, it looked in late April as if there was a good chance that subsequent data would point toward a downward revision to the Q1 GDP number--most likely in the inventory category. Well, you know what happened: We got a string of stronger-than-anticipated inventory readings for March, plus some upward revisions for prior months. All told, we think these ran the nonfarm inventory tab up to a whopping $93 billion--more than 3 times what might plausibly be sustainable in the steady state.

Recognizing the important implications this would have for the dynamics of our forecast, we considered again whether there were any chinks in the data

that might be grounds for discounting them in anticipation of later revisions. Finding none, at least of a statistical nature, we went ahead with the straightforward translation in the Greenbook. What we did was to adjust our expectations regarding the March international trade report, which will come out tomorrow, with the thought that some of the increased inventory accumulation might be reflected in a wider trade gap than BEA assumed. This did not alter the inventory picture itself, but it seemed sensible in terms of better aligning the production and expenditure data.

So, as it stands, it is the high level of inventory investment in the first quarter that is the key reason why, despite the indications of strong momentum in private domestic final demand, our GDP growth rate for the remaining seven quarters of our forecast is virtually the same as it was a couple of months ago. There are many risks here. One is that the Q1 inventory bulge really was not so large, and thus that the drag of the forthcoming adjustment will be less than we have anticipated. Another is that, even if the number is right, we could be wrong in our prediction of the timing of the adjustment. We have a substantial deceleration occurring already this quarter and carrying into the summer, and that is a crucial ingredient in the immediate, and quite marked, slowing of GDP growth in this forecast.

That such a slowing in activity is indeed in train is far from clear right now. For a variety of statistical reasons, discussed in gory detail in the Greenbook, the labor market data are unusually opaque at this time; however, it is our general sense that if there has been a reduction in the growth of labor demand, it has not been commensurate with the degree of GDP slowing that we are predicting. In other words, we are expecting that the slowing in output growth will be mirrored in large measure by a slackening in productivity gains. Of course, I told you a similar story at the last meeting in regard to the first quarter; I will understand if you are a little skeptical now.

But while I'm on the subject of productivity behavior, let me take this opportunity to segue to another conjectural aspect of our forecast, namely the revised productivity trend. Based on a review of recent developments and of the newly available data on multifactor productivity through 1996, we have raised our assumption regarding the trend growth of output per hour in the nonfarm business sector by a quarter percentage point per annum. This might not sound like much, but it is significant in offsetting the surprise we have had with respect to the unemployment rate. It provides an offset in two ways: It mutes the effect of a higher GDP path on the unemployment rate, and it also means that a given rate of compensation gain translates into a smaller increment in standardized unit labor costs. This helps to explain why, despite the recent surprises, the unemployment rate is only a hair lower by next year than in the last forecast and why we have not raised the inflation forecast.

Of course, we not only have not raised our inflation forecast, we actually have trimmed it a tenth. This puts us more clearly below the consensus, although I am not sure how many of the private forecasters are being as assiduous as we are about keeping track of the damping effects of the ongoing BLS technical revisions to the CPI. I may not be able to persuade the doubters among you of the wisdom of our view, but for the purposes of setting the stage for discussion, I will remind you briefly of the major ingredients of the forecast.

First, on the compensation side, we have absolutely no doubt that the labor market is extremely taut. We are a bit skeptical about the 4-1/4 percent unemployment rate registered in the survey last month, but whatever the true number is, we are sure that workers have gained some clout in the pay-setting process. Nonetheless, the March ECI figures showed wage and salary increases right in line with our expectations and benefit cost increases below our guess. Thus, there was nothing in that report to negate the basic premises of our forecast of flat nominal compensation inflation: namely, that low price inflation will damp wage increases; that there will be no repetition of the minimum wage hikes that boosted pay rates in the past couple of years; and that, though health insurance costs will be increasing more rapidly, a slowing of the economic expansion will take some of the "oomph" out of commissions and bonuses. Time will tell whether this sanguine assessment is right, but we are sticking with it for now.

On the price side, the incoming data have been close to our expectations, though we can find some reasons to worry: The tobacco price increases keep coming at us, and we have not incorporated a legislative action that might lead to much steeper increments than we have been seeing of late. The 0.4 percent jump in owners' equivalent rent in last month's CPI could be a harbinger of a more adverse trend in a stronger housing market. And there are signs of price increases happening elsewhere, too.

But, against that consideration, one must also weigh the continued indications of softness in prices in many sectors--the lack of "pricing leverage" still so widely reported, especially in goods markets. The fact is that there are substantial segments of the economy where prices are going nowhere or downward because there is slack industrial capacity, intense import competition, deregulation, cost-saving technological advances, and so on. Commodity prices clearly are not signaling an upturn in inflation. In fact, oil companies will tell you of a supply-demand picture that leaves them concerned that prices might go down from here. The predictions regarding the likely fall grain harvest suggest the possibility of price-depressing inventory buildups, especially if the Asian crisis countries are not able to reverse the dramatic contractions in their ag imports. Semiconductors are in abundant supply, leading to steep declines in the prices of chips going into computers and innumerable other items. I am told by an auto company economist that his firm

is actually thinking about targeting declining vehicle prices in future negotiations with their parts suppliers. In short, there is no sign that goods prices are on the brink of acceleration, and they could be even weaker in the near term than they have been.

We have noted for some time that, if one looked at the factory utilization rate as the indicator of pressures on productive resources generally, one would not only have done better in predicting what has happened to overall prices to date, but one would also be looking for appreciable further deceleration ahead. We have not gone that whole hog by any means. We have stayed closer to what might be suggested by the unemployment rate outlook. We think a little caution is called for, given the possibility that the end of the favorable supply-side shocks of the dollar's appreciation and health care cost-cutting might be more important than is apparent at this point.

I have gone on, now, at some length, without touching on perhaps the most crucial issue in the economic outlook--namely, the prospects for final demand. The risks and uncertainties here are obvious. Asia is one that remains prominent; the possibility that we shall yet head toward one of the "worse case" scenarios is still out there, but at least thus far the direct effects on the United States through the trade channel have been in line with our expectations. On the domestic side, the latest reports on the retail sector and the housing market have given further evidence of the robustness of demand trends.

It was not a slip that we mentioned in the Greenbook the current catch phrase, "bubble economy." We continue to believe that the rise in equity prices has been a key element in the persistent strength of spending. And we remain concerned about the possibility that the market will continue to climb even in the absence of earnings gains. It is commonly remarked that this is a "liquidity driven" market, the implication being that it will take an appreciable tightening of monetary policy--or the fear of one--to prompt a serious correction. Perhaps the hints of a little sterner antitrust posture will put a damper on mega-merger speculation, but that has not materialized yet. And the market has largely shaken off the renewed slump in Asian equity markets. So, at this point, I think one has to consider the possibility that, rather than weakening even slightly, as we have forecast, the stock market will climb appreciably further and give an added boost to domestic demand.

CHAIRMAN GREENSPAN. Questions for Mike? President Parry.

MR. PARRY. I have two questions about your forecast, one about your new estimate of the trend growth of productivity and the other about the outlook for inventories. Could you say something about the educational and job experience composition data that were referred to in Monday's briefing by the Board staff and also in the Greenbook? The evidence must be

compelling because it seems to be the basis for your revision in the trend growth in productivity or at least in the assumption that it is now ¼ percentage point faster.

MR. PRELL. I think the analysis is a little more complicated than that, and I will spare you some of the details. I would probably stumble over them in any event. We have been building into our forecast a substantial allowance for a positive effect on productivity from capital deepening. We did not have a set of numbers that was as up-to-date as we would have liked, and the recent statistical release has clarified that picture. What we found was that the productivity effects on the capital deepening side probably were not as large as we had estimated earlier, and yet we also saw more favorable data on other components of the productivity picture.

One of them was a step-up in the rate of improvement in labor quality. That always seemed to be a possibility. We know that college enrollments have been increasing. We have seen recently some increase in participation among older, more experienced workers. Whether such workers are truly as productive as one might assume on the basis of their experience is conjectural, given the changes in technology and other innovations. But looking at the compositional changes in the workforce and the influx of recent college graduates who may have more current skills in terms of what employers are looking for, it seemed reasonable to us to extrapolate that recent improvement in our forecast.

So, taking our investment forecast, extending what we have learned about the capital services contribution, extrapolating in a sensible way in light of recent labor markets developments the information we have on the quality of labor stemming from greater education, we concluded that it was reasonable to raise our assumption about the productivity trend. We triangulated against all the other information that was available--the continuing surprises in the recent labor

productivity growth figures and how these fit with the Okun's law relation--and we concluded that this elevation of our number was reasonable.

I must say that we are not alone in our estimate of a 1-1/2 percent productivity growth trend. I think DRI is there. People bringing different technology to these estimates come up with different conclusions, but we feel that this is a reasonably sound move for us at this point.

MR. PARRY. On the inventory forecast, I think a distinguishing characteristic of the Greenbook forecast, certainly for the current quarter and the following two quarters, is what happens to inventories. Given the expectation for the second quarter, shouldn't we be seeing more signs of the projected deceleration at this point in terms of surveys, inventory-to-sales ratios, and so forth? We are slightly beyond the middle of May, and the kind of runoff that is part of that forecast is, I would use the word, "huge."

MR. PRELL. I think I voiced my concern in this regard, maybe not clearly enough. There are a couple of possibilities here. One is, as I indicated, that while we cannot find a flaw in the data at this point, inventory investment may still have been significantly less rapid than the first-quarter numbers currently seem to add up to. On the other hand, we have to cut such investment back a long way to get to as lean an inventory picture as we had just a couple of quarters ago in terms of inventory-sales ratios. Another possibility is that businesses are so optimistic or they see so many opportunities to pick up relatively inexpensive supplies--perhaps because of what is happening on the import side--that they are building up their inventories willingly, and we will see this in the data that will get released in the weeks ahead. Thus, there may not be as big a drag from inventories in the near term as in the Greenbook forecast.

MR.PARRY. Voluntary accumulation, but unwise!

MR. PRELL. In the short run, that provides a little more support to production, employment, and income growth, and this process can be self-sustaining to a point. But I think the level of inventories is high enough now that one has to anticipate a gearing down in the rate of inventory accumulation at some point in the coming months. Whether it will be as quick and sharp in the second quarter as we have in the forecast is an open question.

I might note that a good part of that dropback is in the oil sector where inventories ran up very substantially in the first quarter. We are not expecting a repetition of that. When we strip that out, the moderation in inventory accumulation in the second quarter is not quite so dramatic. In fact, for the remaining components of inventory investment, there is still quite ample additional accumulation that would be quite unsustainable by our lights.

MR. PARRY. Thank you.

CHAIRMAN GREENSPAN. President Moskow.

MR. MOSKOW. Mike, I wanted to ask you about one part of the wage side of the forecast. As you point out, you anticipate that workers will accept limited wage increases in the future because of low inflation and low inflation expectations. Of course, we know that wages are going up now. We have seen that in all the measures, and we are all getting anecdotal information about rising wages. You point out that workers have more bargaining power. You add in the fact that we have the technical changes in the consumer price measures, which are getting significant in the CPI going forward. So, when we look at your forecast of the overall CPI going out to 1999, it shows consumer price inflation rising 2.1 percent on a measured basis. If we add back in the technical adjustments, we are up to 2.8 percent in 1999. On the core CPI, if we add in the effect of these technical changes, we see an acceleration each year as well. From the perspective of worker expectations, how do you plug in these technical changes to the CPI?

MR. PRELL. The process by which price movements enter into the determination of wages is very complex. The movements in the CPI are a benchmark in some collective bargaining situations where employers are gauging an appropriate pay increase to offer their employees in the hope that the workers will not be so perturbed about where they stand relative to others that they will leave. Movements in the CPI also serve as a benchmark in many cases outside of collective bargaining where a one-sided decision has to be made. Employers will look at what has happened to the published index over the past year, or some other relevant period, and make that an important element in their decision. In some cases where there are complex systems of general base pay increases that are supplemented by merit pay increases and bonuses and so on, that first element may be very much influenced by the perception of what has been happening to the cost of living. I think these year-by-year changes that you are talking about--you referred to the Greenbook level of CPI inflation in 1999--involve comparisons using 1994 methods. They are cumulative and overstate the differences from year to year. We are talking about differences of only .1 or .2 percentage point for each of these years. That is a subtlety that probably is missed in those cases where people are simply looking at the published CPI to gauge what the appropriate pay increase might be. Part of this process is, I think, simply a backward-looking one as I described. It is a cost-of-living catch-up, formal or informal.

There probably also is some influence from expectations that may not be entirely backward-looking. On that score, we have no evidence that people are expecting a dramatic pickup in inflation. The recent survey evidence has shown a declining trend in inflation expectations, though with some small uptick in the Michigan Survey last month. The expected level of inflation is not down to the measured level of inflation yet. That might suggest that some people are not going to conclude that if they get a 2 percent wage increase, that increase is going to keep them

whole over the next year. But I think the downward progression of readings on inflation expectations would suggest that, whatever their influence on wages was a year ago, it is probably going to be less this year. So, we think that both the price changes we have seen and the expectational changes will tend to moderate nominal wage increases.

An important point is that real wage increases have been very sizable, as measured against product prices in particular but even against overall consumer prices in the last year. What we are forecasting in the next seven quarters is a continuation of very sizable real wage increases in product price terms. It could be that this whole process will escalate, but at this point we don't see a big surge coming from the price side. So, we don't see any reason to think that the way to reconcile these things is to jack up both our wage and price forecasts in the near term. There's a certain momentum here that I think is quite favorable for the wage outlook.

Benefit costs are very erratic from quarter to quarter. We did get a downside surprise for the first quarter. We are assuming that there will be some catch-up in the quarters ahead. You may have seen the horror stories about medical benefit cost increases in this morning's Wall Street Journal. The second page had another story about how businesses are trying to head these increases off or offset them in some way by making employees pay for a bigger proportion of the cost if they do not take the cheapest plan. Our expectation is that there will be a perceptible uptick in medical benefit costs and in the total compensation picture. Just to give you a rough handle on the quantities involved here, if we had an extra 5 percentage points added to the rate of medical benefit cost increases going forward, that would add about .2 or ¼ percent to the overall increases in labor costs. The cost of benefits is important, but it takes really big numbers to greatly disturb the trend here.

MR. MOSKOW. Thank you.

CHAIRMAN GREENSPAN. President Minehan.

MS. MINEHAN. I think you have mostly answered this question, but let me pose it in another way. Are the computational changes being made in the CPI masking the real price increases that are occurring? In other words, is there a distinction between what people really are experiencing and what the numbers say, or are the computational changes reflecting the reality of what people see?

MR. PRELL. That is an interesting question, and it may suggest that the way I approached the prior question was not right. In a sense, we think these changes are improvements in the measurement of inflation because they better capture reality. I guess that suggests that if all along people had been making their decisions based on something more like the reality than the published numbers, then they would not perceive, for example, that their real wages were going up faster than the measured numbers suggest.

MS. MINEHAN. So, you don't see further major changes after the end of this period in BEA's computation of this measure? If you take the 1994 numbers, compare them to those projected for 1999, and adjust for measurement differences, you get an upward trend of something like .5 percent. You don't think that trend will then reassert itself? You don't think BEA's adjustment is masking a trend that is going on anyway? You think it is measuring what is really going on?

MR. PRELL. We think these numbers better capture the reality. We also think that it is important to keep tabs on this in thinking about whether there is an acceleration or not in the rate of inflation.

MR. STOCKTON. The reality is that real inflation is lower now than the current numbers are suggesting. While the price measures are getting closer to actual price inflation, our

forecast indicates that there is some pickup in the real underlying rate of inflation, that is, between where we think inflation is in the real world today and where we think it is going to be in 1999.

MR. PRELL. We are moving only incrementally toward reality in the measurement changes. The fact that we are getting there gradually means there is a distortion in the underlying acceleration.

MS. MINEHAN. This gets into metaphysics! [Laughter]

CHAIRMAN GREENSPAN. Mike, can we get the University of Michigan to insert a single additional question for just one month? Before people are asked what they expect price inflation to be over the next year, they would be asked what they thought inflation was in the previous year. I will bet that the results would be startling.

MR. PRELL. I'm sure they would be happy to accommodate us for a price. [Laughter]

CHAIRMAN GREENSPAN. If we asked a number of people what the inflation rate was in the last year, I cannot believe that most would come within 5 percentage points. This Michigan Survey, as best I can judge, is asking straight questions of people without any bias. Even so, I would be terribly curious to see whether the responses come close to what the actual inflation rate was. I think that information is needed before you can safely say, as you said just a moment ago, that they are still expecting an inflation rate higher than the actual rate. It depends on which direction they are going. It is not irrelevant what they think the previous year's rate was.

MR. PRELL. I suspect that the Michigan survey people might have some qualms about injecting that question, given the possibility that it would disturb the answer to the subsequent question.

CHAIRMAN GREENSPAN. It surely would.

MR. PRELL. They don't have to give survey participants the correct answer for some index. In fact, I don't think the question relates to any particular index.

CHAIRMAN GREENSPAN. Maybe they ought to ask my question after they ask all the other questions!

MR. PRELL. That would be a safer approach in that respect.

MR. STOCKTON. The people at the Michigan Survey have tried to design the series of questions that they ask very carefully in order to avoid getting biased responses. In fact, Mr. Chairman, you are right that when people are asked in surveys what inflation has been in the past, the results are similar to what you are suggesting. In such surveys if the question is not asked carefully, people give all sorts of bizarre answers. In fact, the mean expected rate of inflation is usually much higher than the current rates.

CHAIRMAN GREENSPAN. Doesn't the Conference Board truncate some of these means?

MR. STOCKTON. The Conference Board truncates both the upper level and the lower level responses. They confine the answers to a 0 to 15 percent range, whereas the Michigan Survey allows the full range of responses.

CHAIRMAN GREENSPAN. It would be very interesting to know whether that works.

MR. GRAMLICH. Just on this point alone, of the identifiable biases in the CPI, more than half of them are still there. BLS has taken out 0.6 percentage point, but that is less than half of even the identifiable biases.

MS. MINEHAN. Yes, of that estimated one point plus something.

CHAIRMAN GREENSPAN. President Poole.

MR. POOLE. I have a comment and a question. Clearly, the outlook depends, as you made clear, on the outlook for equity prices, the bond market, and the exchange rate. For the bond market, you are assuming that rates stay about where they are, which I think is a sensible thing to do. I think it makes the most sense to have a baseline forecast that follows the same procedure with respect to all of these speculative markets, making use of the evidence from the marketplace. The baseline stock market assumption should be along the lines whereby the returns will approximate the risk-free rate plus the equity premium, with a similar kind of assumption for the exchange rate where changes are based on interest rate differentials. The staff would then explore the implications for the forecast of some potential deviations from those baseline financial market conditions. That would be my suggested approach.

I have a question on inventories: Have you made any inquiries to firms in industries where you suspect that there has been large inventory accumulation? We talked about the specific information that we have on oil inventories. But how about other industries where there may be inventory accumulation that you can identify? Have there been any phone calls to people in those industries to ask them what is going on as best they know?

MR. PRELL. We have talked to a number of business people and have attended meetings where economists from various corporations talked about these things. There are not a lot of industries where the accumulation of inventories stands out. I can cite a few anecdotes and a few statistics that I think might be worthwhile. The chemical industry clearly has had a substantial increase in inventories and a big run-up in its inventory-sales ratio. That is probably at least partly related to Asian developments. I believe there has been an upturn in pulp and paper. I have heard of some stocking up by electronics firms that thought it was a good time to buy because prices were good. We have a few anecdotes, including some in the Beigebook, that indicate that some firms

have taken advantage of low prices being offered by Asian suppliers to build up their inventories in some materials.

CHAIRMAN GREENSPAN. Crude oil and oil product inventories have moved up quite significantly.

MR. PRELL. There is no doubt on the oil side. My sense is that the buildup was only to a modest degree the result of price speculation. It appears to have been much more the result of softer-than-anticipated demand for petroleum products because of the warm winter weather.

CHAIRMAN GREENSPAN. That is evidence of some backing up in inventories because the accumulation is not what they intended.

MR. PRELL. Right.

CHAIRMAN GREENSPAN. So, from the look of things, oil inventories are higher than intended. The oil companies obviously would have preferred a lower level of liftings around the world, especially the amount that has flowed into the United States, which they obviously are trying to cut. Oil stocks are not an irrelevant statistic among the numbers we are looking at.

MR. POOLE. I was just trying to get at the issue of whether the firms themselves felt that their inventory accumulation was voluntary or involuntary.

CHAIRMAN GREENSPAN. I think the answer, and that is what the Greenbook suggests, is that there's very little evidence that it is involuntary.

MR. POOLE. Right, that's what I thought.

CHAIRMAN GREENSPAN. In that regard, the only really interesting statistic that we have is the response to a question we asked the purchasing managers, namely whether in their judgment the inventories of manufacturers' customers were too high, about right, or too low.

While the latest published number is up slightly, it is still well within any meaningful range. There is no indication that inventories are building up involuntarily. Since virtually all goods are manufactured goods, one would presume that purchasing managers would provide a very good assessment of the inventory situation, and their responses do not show any particular problem. I gather that the data from the National Federation of Independent Businesses (NFIB) show much the same thing.

MR. PRELL. Yes. We showed these data in our briefings for the Board yesterday that I hope the presidents received. Neither the Purchasing Managers' survey nor the NFIB survey provides significant evidence that there has been any unintended, undesired accumulation of inventories in the first quarter. One of the things we did not highlight in our briefings but that also is part of the survey is a question about inventory plans. The April reading in the NFIB survey showed a startling jump in plans to build inventories.

CHAIRMAN GREENSPAN. That is usually an indication of history though.

MR. PRELL. It may be that they are reflecting what has happened but, be that as it may, the April number took a big jump. It actually looks weird. For what it's worth, no concern was expressed there, and in fact the NFIB survey overall, as interpreted by their own people, would suggest that the growth of the economy in the second quarter will be as strong as it was in the first, and that did not come as any surprise to them. According to their survey, second-quarter growth is going to be stupendously strong.

CHAIRMAN GREENSPAN. The truth of the matter is that inventory backups are perceived only when final demand begins to slow. I think we almost never find anecdotal inventory concerns when markets are moving as fast as they are currently.

MR. PRELL. Let me offer two very brief final points. One is on the financial side. If one looks at the business financing flows, short-term business credit in particular, those flows are not inconsistent at all with there having been a strong run-up in inventories earlier in the year. And what we have in hand for the first part of the second quarter is entirely consistent with a big reversal, sharper than the one we have in the Greenbook.

CHAIRMAN GREENSPAN. Part of the latter is corporate debt repayments.

MR. PRELL. Yes. I was going to caution that this is not an entirely reliable indicator. There are a lot of things going on in the financial sector.

CHAIRMAN GREENSPAN. It is the only one that we have showing an acceleration in the second quarter.

MR. PRELL. The other point I want to make is that it is not simply a question in our minds of whether this inventory buildup is involuntary. It is in large measure simply a question of whether the inventory accumulation was as rapid as was indicated for the first part of the year because, one way or another, that rate of inventory investment needs to come down. If it was involuntary, then we might expect a more rapid orders and production adjustment, but the drag would still be there over time.

CHAIRMAN GREENSPAN. In other words, merely reducing the rates without any indication of whether there is a problem or not will arithmetically reduce the level of output.

MR. PRELL. Right.

MR. TRUMAN. With regard to your comment on exchange rates, President Poole, we did look about a year or so ago at whether we would forecast better if we used expected forward exchange rates and forward interest rates. It gets a little complicated when we use non-G10 currencies by the way. The answer is that we introduce more noise by using that than by using an

assumption built off independent assumptions for exchange rates and interest rates here and abroad. That is true partly because in the short run, over periods of a year or so, expectations about policy movements or other developments move around so that a lot of noise is introduced into the forecast. I think we are better off with this arbitrary assumption rather than something that is driven by market interpretation. We are not a lot better off, by the way, but obviously the former gives us a less good forecast.

MR. PRELL. On the stock market, President Poole, this is a recurring question and it puts us in a tough logical bind. You suggested a formulation that would have grossly underforecasted what happened to stock prices over the past couple of years but not as much as we have. [Laughter]

MR. POOLE. I was about to get to that!

MR. PRELL. We took a punch on that one, and it has been painful. But the other issue is one of simple coherence. To the extent that we have any inkling of what is built into the stock market in terms of expectations about monetary policy, interest rates in general, earnings, the behavior of the economy, and so on, it leaves us uncomfortable to ignore all that and write down something that implies a vast extension of price-earnings multiples beyond what we have seen. So, we have taken the approach of trying to put in a stock market path that seemed more consistent. It has not stood us in good stead to date. Over the past couple of years, we certainly would have been better off using the approach you outlined. Whether that could be said going forward, we do not know. But it is a point we continue to think about.

CHAIRMAN GREENSPAN. President Jordan.

MR. JORDAN. Mike, I want to comment on your response to a question by Mike Moskow. I am trying to reconcile it with my own view of the process, which right now I am not

able to do. You talked about the extraordinary domestic demand and about the increases in compensation we are seeing. Year over year since 1993, we have seen a steady upward trend in the rate of personal income growth. Last year it was 6 percent for the full year. In the first quarter of this year, it was 6.6 percent according to the Greenbook, and next week we will get a number for April. The Greenbook forecast indicates that after the steady upward trend of the 1990s to a rate of over 6 percent in personal income growth, the rate drops to 3 percent in the current quarter that we are halfway through. What we hear from companies and from employers of all types is that they are hiring people, giving them bigger and bigger compensation increases, promoting them, and in short doing everything they can to retain them on their payrolls. And yet, personal income growth suddenly drops to 3 percent in your second-quarter forecast. Now, other than needing that to happen on the income side to add up to what is supposed to happen on the product side, are there other stories we can tell as to why income growth suddenly decelerates sharply?

MR. PRELL. Are you talking about nominal figures here?

MR. JORDAN. Yes.

MR. PRELL. Total personal income, not disposable?

MR. JORDAN. Total personal income.

MR. PRELL. I have not focused on that measure. We have a considerable slowing in the economy--

MR. JORDAN. But personal income is for people who are working and getting paid. The number of people working is going to go up another 600,000 this quarter according to the Greenbook projection, and everything we hear indicates that what will be going into their pay envelopes will be bigger than before. Every employer we talk to complains about how much more they have to stuff in those envelopes one way or another. So, why would personal income growth

slow down? I am getting more and more accustomed to the idea, at least when I talk to people, that the growth in personal incomes has nothing to do with monetary and fiscal policy.

MR. PRELL. I can see in the detail of our forecasts a number of components that we have shifting. Transfer payments, for example, fall off, presumably because of the spurt in social security payments in the first quarter. But I guess I don't have a compelling answer for you. Total personal income in the first half is still rising at a rate close to 5 percent, which is not far below the average pace last year when employment growth was even faster than we have over the first half of this year. Perhaps there's something in these quarterly numbers that I can't immediately put my finger on to explain this.

MR. JORDAN. It always drops from the first quarter to the second quarter, which says something about the seasonal adjustment. But as the quarterly personal income numbers run out through the end of 1999, they maintain a nice steady 4 percent rate of growth.

MR. PRELL. When we go out that far, I don't have a big problem reconciling this growth path with the much more modest increases in employment that we are forecasting. It is more with regard to this first quarter-second quarter pattern that I am not prepared to give you a nice crisp answer as to why we have that particular gyration. But as we move out in time, the question is whether the economy is going to moderate as we have forecast. If it does and if productivity holds up reasonably well, employment gains will be much smaller and they will be entirely consistent with this kind of slackening in the growth of nominal personal income in our forecast.

MR. JORDAN. Some of the anecdotal comments we are hearing can be put into a framework that people are familiar with, one that indicates a purely transitory decline in the NAIRU along the lines of what I think of as the inverse of the money illusion. From a money

framework, the reason we have lags in the system is the existence of a money illusion. People think that they are richer for a while, but we get an adjustment ultimately when people realize that more money does not buy more. The inverse of that in a NAIRU framework is that people do not realize that they are a lot more productive and that they are worth more to their employer. The value of the marginal product of labor goes up and labor is not being compensated according to that value, but at some point it is payback time. It is catch-up time. More and more, there are stories from both employers and from the labor side that the reason corporate earnings have been so good is that workers increasingly have been underpaid in terms of the value of their marginal product, and now workers feel it is their turn. I hear those kinds of stories everywhere: what employers are doing to promote people, what they are doing to recruit people. I have trouble with the notion that personal income growth is nonetheless going to decelerate and grow at a nice steady 4 percent rate for the next 6 or 7 quarters. That just does not compute with what I am hearing.

MR. PRELL. You're switching gears on me! Before I was addressing the question of employment growth and how that is slackening substantially over the forecast period and accounting for a good part of this slower growth in personal income. The other question is what is going to happen to real wage rates or nominal wage rates. I discussed that earlier. There is not a great deal I can add to what I said about our theory in that regard. What we are predicting, given the price path, is not at all at odds with what history suggests in terms of models that relate wage changes to past price changes and measures of labor market tightness. The situation in terms of the workers being fooled for a period and then some catch-up occurring is something that we have made some allowance for, at least in our minds, in that we anticipated that the NAIRU would come down a bit as the productivity trend shifted upward. This productivity gain was not immediately recognized, so employers might have been able to get away with more moderate nominal wage

increases, some of that showing up in lower inflation and some of it showing up in higher profits in the short run. That process may be reversing. We are assuming a little tick back up in the NAIRU. Maybe it will be more dramatic than what we have allowed for.

In the end, we are monitoring the incoming data as closely as anyone can. As I said, what we have seen in the recent numbers has not been at odds with our expectations. You can eyeball the moving averages on a number of these series and see an upward drift that you will extrapolate, given your sense of what is going on. Or you can look and see that, after you have allowed for some of the bumps along the way with respect to the minimum wage and have looked at the recent period, it is not clear that there is an ongoing acceleration in the recent numbers. Maybe more of this compensation is taking forms that are not captured well in the measures. That means there may well be a cost that employers are incurring that is not going to be reflected in the wage data. That would be something one would want to take account of, I think.

MR. JORDAN. How important is next week's number on personal income for April? I look at this and say that if the two sides of the accounts are going to add up, we better get a sharp slowing in the growth of personal income for the second quarter.

MR. PRELL. Obviously, we would look at a number on personal income and adjust our forecast as appropriate. The personal income number is rarely something that is of enormous importance in itself because we think we have some rough handle on how those numbers are estimated from the available data on hours and average hourly earnings and so on.

MR. POOLE. May I ask a question on that, a very quick question?

CHAIRMAN GREENSPAN. President McTeer has been trying to get in. He has probably forgotten his question! [Laughter]

MR. MCTEER. I want to call your attention to the third paragraph on the first page of the Greenbook. I'm going to read two sentences and ask a question about the second one. "Our forecasts of moderating growth of demand have long been premised on an assumption that some reversal of stock prices would be precipitated by a failure of corporate earnings to meet unrealistic expectations. However, we have also warned repeatedly that, given the prevailing psychology of investors, a greater shock--perhaps a significant tightening in monetary policy--might be required to put a damper on the market's uptrend." Does that sentence mean to suggest that we have a goal of putting a damper on the market?

MR. PRELL. No, it reflects the thought that our stock price assumption might be too low or that we might be putting too much of a premium on what we think is rational investor behavior. As we see it, if the market continues to go up, the wealth effects, cost of capital effects, and so on would stimulate greater aggregate demand. We leave it to you to determine whether the implications of stronger aggregate demand for inflation would be troubling and thus whether some policy action might be warranted. In all likelihood, a substantial monetary policy tightening would have some damaging effect on equity prices. That is, I think, how we see this sentence.

MR. POOLE. I just had a very brief question about personal income. Doesn't the first release on personal income come mostly from the employment data? If so, is it really an independent reading on personal income?

MR. PRELL. Exactly.

MR. POOLE. Okay.

MR. PRELL. There is some massaging. As we have indicated, at the present time with all of the uncertainties about the measurement of the average workweek and average hourly

earnings, that massaging is more important. To a first approximation, we think we know how BLS is doing this, and that is not normally an independent piece of information of great importance.

CHAIRMAN GREENSPAN. Any further questions for Mike? Go ahead.

MR. HOENIG. I have just one final question, Mike. If I understood what you said about the stock market, you described it as a possible source of excess demand in the economy that would cause us to be concerned. Is that what you are saying?

MR. PRELL. We tried to address this issue once again. I assume that President Poole noticed this in Part I. We do have a simulation where the stock market rises moderately. Given the uncertainties about equity premiums, I am not sure what your formula translates into, but basically the alternative has the equity values rising with nominal personal income. So, running this through the model, we get a significantly faster growth of GDP. We think that what we have assumed is reasonable given our expectations of earnings against what seem to be still very buoyant earnings forecasts. While they have come down for 1998 among private analysts, it seems as if most of them think the damage is entirely behind us and that earnings are going to be moving up rapidly in the second half of this year and into 1999.

CHAIRMAN GREENSPAN. Further questions for Mike? If not, who would like to start the roundtable? President Boehne.

MR. BOEHNE. The regional economy around Philadelphia continues to operate at a fairly high level with mostly modest growth. There are few signs of upward price pressures. Among the anecdotal tidbits that I have picked up around the District in recent weeks is that one in four jobs is likely to go unfilled this summer in District shore areas. There seems to be an increase in the number of retail customers who cannot complete purchases because their credit cards are "maxed out." There also are quite a few bankruptcies and delinquencies. One Philadelphia firm,

for example, has sent 14 of its 250 employees to credit counseling school in recent months. But almost everywhere in the District, and this is the unifying theme, people are in an upbeat mood.

At the national level, we find ourselves facing much the same economic situation that we had in March. Employment and output growth appear unsustainably strong, but there is little evidence that inflationary pressures have begun to build. We are wondering how soon or whether growth in aggregate demand will slow or inflation build if the fed funds rate remains unchanged. Early data for the current quarter are inconclusive about any slowing in the expansion. Higher compensation costs and a slightly faster rise in the CPI in recent months are possible early warning signs of accelerating inflation, but that evidence also is not conclusive. The acceleration in M2 also might be an early warning sign, but that too is questionable. So, with data that remain unclear, we basically are still in the business of balancing risks to determine what the appropriate course for monetary policy ought to be. The risks for the real sector are, in my judgment, still tilted toward the upside as they were in March.

The risks in the financial sector also are tilted in the direction of excess. Some examples are the narrowing of spreads, strong competition for lending that has led to an easing in credit terms, a high level of consumer debt and personal bankruptcies, expansion of subprime lending with questionable terms--for example, 125 percent loan-to-value ratios for home equity lending--rising prices of homes and office buildings, rapid expansion of REIT activity, narrow risk spreads between Treasuries and corporate bonds including junk bonds, and rapid growth of the junk bond sector so far this year. I would also mention the stock market, where P/E ratios seem out of phase, and the strength of the merger movement, with merger offers that involve growing premiums over current stock prices. None of these signs is conclusive individually as an indicator of major financial excess. One can make that case, but I don't think it is that convincing a case.

They do bear watching, however, because excesses in the financial sector can easily undermine the pursuit of maximum sustainable growth and output.

Where I come out is that our ready, alert position of recent weeks remains appropriate, although we certainly have a number of things that we need to watch closely going forward in the coming weeks.

CHAIRMAN GREENSPAN. President Broaddus.

MR. BROADDUS. I don't have a lot to say about the District economy today, Mr. Chairman. There hasn't been much change in our regional picture since the last meeting, and overall it doesn't differ that much from the national picture.

With that in mind, I thought it might be more useful to relay a few comments that made to me recently. He is a major real estate developer who is active in the mid-Atlantic region, most of the Southeast, and parts of the Southwest. He called me on May 11 to express some concerns about what he sees going on in his sector of the economy. First--and this differs from a lot of the information we're hearing--he said that prices of construction materials that he is familiar with have been rising sharply very recently, especially the price of concrete. Second, he indicated that there are now very high absorption rates for office space in most parts of the country. He said that rents are rising and that he actually has seen some acceleration in rent increases most recently. To pick up a little on what Ed Boehne just mentioned, he also said that the amount of money available for speculative investment in real estate is beyond anything he has seen in his long and very active career. Finally, at a recent meeting with other large-scale developers from across the country, he said the general consensus was that there are clear signs in many markets of some overheating in the commercial real estate sector.

With respect to the national economy, for several quarters there has been a tug-of-war between those who expect real GDP growth to decelerate appreciably, including the Greenbook, and those who think that strong domestic demand will continue to propel strong economic expansion. With the Asian drag on net exports expected to peak soon, the Greenbook, as we have been discussing here this morning, is now predicting that a significant inventory correction will bring about sharply slower growth in the second quarter. Now, it is certainly true that inventory accumulation was quite robust in the first quarter. But as I see it, inventory-sales ratios are still very much in line. I don't hear much anecdotal evidence of excessive inventories in my region. So, they may or may not be excessive. But in general, it is hard to escape the conclusion that at this point predictions of a deceleration boil down to a general feeling that the expansion will have to slow from its current track on general principles, which is certainly not an unreasonable view to take.

But as I see it, even if the expansion does slow, the growth of demand has already outstripped the growth of productivity for a long time. Mr. Chairman, you expressed some concern about this in testimony back in October as I recall. Since then we have seen what has happened in labor markets. We have had average monthly growth of about 200,000 jobs, which is about double the trend growth in the labor force. Everybody agrees that the labor markets are extremely tight, and that seems at least to some degree to pose an inflation risk going forward.

On the other side of the issue, people like me have been predicting higher inflation for a long time, and those predictions certainly have not been borne out by events. So, I think a little humility on our part is pretty much in order at this stage and I acknowledge that. But frankly, as I look forward and try to assess the risks in the outlook, I still think that the key risks are on the inflation side. It occurred to me that it might be time for me to sit back and review, with the help of

my staff, what the analytical basis for that concern might be. I would like to summarize that analysis for you this morning, and I will do so quickly. It has to do with real interest rate behavior and what that might be telling us.

First, it seems clear enough at this stage that permanent productivity gains are a major force driving this economic expansion. The staff has revised upward its estimate of productivity growth. That revision in turn is consistent with the higher level of stock prices in the current Greenbook forecast. If households similarly are now beginning to think that their recent real wage gains and their stock gains are going to be sustained, that might help to explain some of the extraordinary current strength in consumer demand.

If permanent productivity gains are in fact driving the expansion at this stage, one would expect on general economic grounds to see higher real interest rates as consumers borrow against expected future income gains and firms borrow to take advantage of favorable investment opportunities. Sure enough, real interest rates are rising, and they already are relatively high. That then raises the key question in this analysis. Is it possible that our policy stance is still inflationary even though real interest rates are at a relatively high level? I think it's possible. First, if technological innovations have raised the marginal product of capital, and I believe many would agree that they have, then firms naturally would be willing to borrow at high real rates to finance acquisitions of new capital. But as the investment boom progresses, one would expect the capital deepening to cause the marginal return to capital to decline over time. That in turn would be consistent with the pattern of real interest rates where current short real rates are above expected future short real rates, resulting in a downward sloping real yield curve. The fact that the actual real yield curve now is basically flat at least raises the possibility, even though real rates are high, that with monetary policy we are holding current short real rates below the level they are trying to

reach. Given that possibility, I think the bottom line is that we may not want to take too much comfort, from the standpoint of evaluating our policy stance, from the fact that real rates have been rising and are fairly high.

Finally, the possibility that policy is too easy seems to me to be made all the more likely by the strong growth in M2 and other monetary aggregates, at least until very recently. That growth has carried M2 above the 1998 target cone and even at one point, if I am reading the Bluebook picture correctly, above the wider band that we used to refer to around here as the Volcker tunnel. The bottom line is that I still think there is good reason analytically and fundamentally to be concerned about inflation even though we have not seen very much of it lately.

CHAIRMAN GREENSPAN. President Parry.

MR. PARRY. Mr. Chairman, economic activity has remained strong in the Twelfth District in recent months. We have seen particularly strong job growth in Arizona and Utah where the rate of expansion has reached 4 percent. Job growth in Washington State is running above 3 percent, and the local unemployment rate is falling rapidly. With a tight Seattle area labor market, Boeing aircraft recently announced a decision to shift some if its production to southern California. But the supply of available workers in southern California is dwindling too. The Los Angeles area unemployment rate has fallen almost a full percentage point over the past year to 5-1/2 percent. For California as a whole, employment growth remained solid in the first quarter of 1998, although not quite as robust as it was in 1997. Growth was boosted by sectors such as construction that are benefiting from low, longer-term interest rates.

We do see some slowing in some manufacturing industries in California and other District states, with exports diminishing and import competition from Asia picking up. The volume of cargo through the District's six major seaports--and of course two of those, Los Angeles and

Long Beach, are huge--showed a large rise in imports and a drop in exports in the first quarter. Employment in District computer and electronics industries has been weak in recent months and additional job cutbacks have been announced. In many cases, the high-tech firms that are cutting back have lost market share to other domestic firms and are now making competitive adjustments to cut costs. I'm sure you've seen the list of these companies: National Semiconductor, Silicon Graphics, Syntax, Netscape, Apple, etc. The adjustments have proceeded quite quickly, so it is possible that this recent period of intense, competitive adjustments among domestic firms may be nearly complete. Even with these pressures restraining manufacturing employment in our region, the overall District manufacturing sector still managed to add jobs at about a 2 percent rate in recent months.

In the national economy, the continued combination of strong economic growth and low inflation in the first-quarter GDP report made it more likely that economic events are being driven by favorable aggregate supply conditions. Based on that experience, I am leery about predicting even a modest slowdown in economic activity in the immediate future. However, some slowdown does seem to be the most plausible outcome. We show real GDP growth of around 2-3/4 percent in the current quarter and also in the second half of this year. The economy appears to be experiencing modest contractionary effects stemming from the problems in East Asia. In addition, employment growth in March and April taken together recently provides a bit of evidence of a slowdown.

With regard to inflation, tight labor market conditions certainly represent the main risk of inflation problems ahead. The large recent drop in the unemployment rate has intensified this risk a bit even though the rate may bounce back somewhat in coming months. Fortunately, a number of other factors have been holding inflation down including, as we know, ample

manufacturing capacity, some increase in productivity over the past year, a higher dollar, lower oil prices, and diminished inflation expectations. In light of these considerations, our forecast shows core CPI inflation holding steady at just over 2 percent this year and next. However, even if there has been a positive supply shock, I doubt that recent economic growth rates are sustainable. I remain concerned that if real GDP growth does not slow soon, the effects of tight labor markets will begin to show through to price inflation. Thank you.

CHAIRMAN GREENSPAN. President Moskow.

MR. MOSKOW. Mr. Chairman, the Seventh District economy is expanding at a moderate pace, with few signs of slowing growth and increasingly frequent reports of upward pressures on labor compensation. Our robust housing markets have strengthened retail sales and also have boosted activity in steel, gypsum, cement, and other construction-related industries. April's light vehicle sales were at an annual rate of 15.4 million units; that is the highest so far this year. Our contacts indicate that sales so far in May are running above the 15 million level. Sales are being sustained by incentives, although relatively more of the Big Three sales are retail rather than fleet sales compared to a year ago. Expansion in overall manufacturing activity declined slightly from March to April according to the Purchasing Managers' surveys from Chicago, Detroit, and Milwaukee, but activity remains at high levels in virtually all of the industries.

In general, we are not getting many reports of an adverse Asian impact on our manufacturing sector, although there has been a sharp reduction in demand from Asia in high-tech electronics. Labor markets remain very tight and the unemployment rate in our five states was 3.8 percent in March. Moreover, Manpower's report on hiring intentions for the third quarter shows no easing in labor demand, as these hiring plans are the highest since 1978. This report will not be released to the public until May 26, so it should be treated as confidential until then.

In their own business, Manpower has seen two different markets: a softening in demand for industrial workers but strong demand for white collar and technical jobs. Manpower is also seeing increases in compensation, and other contacts increasingly are reporting a pickup in wage growth as we were talking about before. One of our directors in the trucking industry reported a bidding frenzy that has raised the wages of employees, not just for drivers but across the board in his industry. Another director noted that several labor contracts with firms in Iowa were leading to rising labor costs. However, the increases remain relatively modest so far, and more importantly they are being offset by productivity gains according to our directors and other business contacts. Still, employment costs in the Midwest increased at a faster pace in the last year than in the nation and that has been the trend for the past four quarters.

While regional CPI data can be volatile, consumer price inflation in the Midwest has been accelerating since December, in contrast to the rest of the nation. Similar to trends in the nation, however, increases in consumer prices are being driven by the prices of services. In line with what Mike Prell mentioned before, all the business people I talk to in the goods producing sector continue to emphasize that they cannot raise prices because of fierce competition.

Turning to the national outlook, we have revised upward our forecast for both real GDP growth and core CPI inflation. The Asian financial crisis seems to be having a significant effect on the trade-sensitive manufacturing sector, but the direst predictions about its effects seem increasingly less likely to materialize. Moreover, domestic demand remains very strong as reflected in the unexpected strength we have already seen this year. Altogether, we see GDP growth of about 3 percent for this year. This is roughly ½ percentage point higher than we were looking for at the time of our last meeting and above estimates of a sustainable trend.

Labor markets are extremely tight by all measures. Nothing in the growth forecast seems likely to change that in the near future. Moreover, labor supply may have reached its outer limits. After growing rapidly for two years, the labor force has been increasing more slowly in recent months, and a period of slower-than-trend labor force growth represents an additional risk to the forecast.

Given these developments and the prospect that benefit costs will increase more rapidly, employment cost pressures seem very likely to intensify significantly. Taking all this into account, we have raised our forecast for core CPI inflation this year to 2-1/2 percent. Given the changes in methodology, this would be about ½ percentage point worse than last year. At the time of the last meeting I thought the risks had shifted to the upside. They now seem to be more decidedly in that direction.

CHAIRMAN GREENSPAN. President Minehan.

MS. MINEHAN. Thank you, Mr. Chairman. The New England economy continues to show remarkable strength. With employment growth only slightly below the nation's and an unemployment rate that remains lower than elsewhere, the District economy remains strong and vibrant. As evidence of this, regional manufacturing jobs recently increased at a pace faster than in the nation and merchandise export growth was faster as well. This may reflect the fact that we are a little less oriented toward Asia than some other parts of the country. The trend in manufacturing jobs reflects a turnaround in the region's computer industry, the successful commercial conversion of some formerly defense-intensive manufacturers, and growing strength in the region's equipment and transportation industries.

Our labor markets remain very tight even at entry levels. Here are a few anecdotes. We cannot hire check clerks for our nighttime processing operations to deal with the increase in

volume from the shutdown of the Lewiston RCPC. One of our directors, who is the publisher of the major newspaper in New England, cannot find people to deliver the papers. Employers associated with the tourism industry in Maine are concerned, similar to what President Boehne mentioned, about filling summer jobs in tourism in southern Maine. Pressure is most widely felt, as it has been in the past, in the computer, engineering, and other technical job categories, and there we are seeing wage growth at double-digit rates. Other wage increases reportedly range in the 3 to 5 percent area and do not seem, at present anyway, to be presenting a problem.

Real estate markets are very tight in downtown Boston. Speculative building has picked up in the western suburbs, given the total lack of class A space downtown. Rents are up everywhere. Elsewhere in the region, real estate markets are improved and even quite active, particularly in suburban Providence, but the sizzle remains confined to the Boston metropolitan area.

Asia is a concern and its impacts are felt in different ways. Some see delays and cancellations of existing orders and some decline in new orders from Asian customers. Others see renewed competition from Asian sources. This is reflected in the commentary of a Providence manufacturer of gold jewelry. Finally, still others see risks in the chronic structural problems of China and Japan, but as I noted earlier, our region does tend to be a little less exposed to Asia than others.

Turning to the national scene, our own forecast has overall GDP growth just below 3 percent in 1998 and has it trending down to our estimate of potential in 1999. We see stable unemployment over the period and, unlike the Greenbook, we have not made any major changes to our estimate of trend versus cyclical productivity. Thus, we see an uptick in core CPI inflation not

unlike what President Moskow was talking about. By that measure, inflation ends up somewhere in the high 2 percent range by the end of 1999, even when adjusted for changes in measurement.

I must say that I have some questions about the Greenbook's forecasts of productivity and unemployment and the related impact on inflation projections. It seems to me that if productivity trends over the past couple of years, as opposed to looking forward, were truly higher and the economy's potential greater, unemployment should not have declined as much as it did over the past two years or so. But it did decline from the mid 5 percent range to the mid 4 percent range. I do not know how to measure inflation consistently. I wonder if this is a metaphysical question about whether inflation is actually rising even though we cannot see the rise because the way the CPI is measured has changed so much. The nexus between unemployment and the rising wage pressures and wage costs on the one hand and final prices on the other is a little muddied. But even given that muddiness, I do think that there is reason to be concerned about the risks to the inflation forecast. It is very difficult to see the expansion slowing as much as it does in the Greenbook projection and frankly easier to see it speeding along as it has been, with some sizable risks on the upside with regard to inflation.

I would like to pick up on President Boehne's comments in terms of not relying on any of the individual smoking guns in the financial markets, but when viewed altogether they add up to a sense of a real risk in those markets as well.

CHAIRMAN GREENSPAN. President McTeer.

MR. MCTEER. Cathy ended with smoking guns. The main thing that has been going on in Texas for the last week and a half is second-hand smoke from forest fires in Mexico and central America. It has put a heavy haze over all our major cities.

The Eleventh District economy remains strong, but we believe our strong rate of growth has slowed a little since the March FOMC meeting. The primary factors that have contributed to this slowing are weaker demand from Asia, the general softness of oil prices, shortages of construction workers and cement, which have put a cap on the level of construction activity, and some early signs of slowing in the Mexican economy.

Demands for three of the Dallas District's major products--semiconductors, chemicals, and energy products--have weakened slightly over the past couple of months. Intel Corporation recently halted construction of its $1.3 billion Fort Worth plant, and numerous chip manufacturers have announced small layoffs at their plants in our region. One of our directors reported at last week's board meeting that the global market for semiconductors is expected to shrink 2 percent this year, with the strongest demand coming from Europe for the first time in 20 years. Demand from Asia overall is expected to be flat, but that from Japan is expected to decline by 14 percent, and demand in the United States is anticipated to shrink slightly. These forecasts are in value terms. Physical output is growing in the District, but it is not keeping up with the price declines.

Oil drilling activity has slowed, and the rental price of rigs has begun to reflect that slowing. Several large oil producers have announced cuts in their capital budgets for the coming year after reporting sizable declines in profits for the first quarter. Residential and commercial construction activity remains strong. Dallas recently passed a number of bond issues that increased the demand for construction resources. Many projects are being slowed by a shortage of cement, which has been put on allocation for the last few months and is expected to remain so for months to come. To give you an idea of the seriousness of the cement shortage, Texas A&M may not be able

to complete their football stadium in time for the season, and they have some alumni in the cement business. [Laughter]

Overall inflationary pressures remain subdued in the Eleventh District. Office rents continue to rise, but the rate of increase has slowed. New office buildings are coming on stream, but demand for them remains strong. Labor markets are tight, but firms are becoming increasingly innovative and flexible in their search for workers and in the way they deal with them.

The health of the Mexican economy represents an important downside risk for the Eleventh District. Mexico has been affected to a much greater extent than Texas by the Asian crisis and by the decline in oil prices. Oil exports fund roughly 40 percent of Mexico's federal budget. The budget has been cut twice because of falling oil revenues, and Mexican officials have warned that a third cut may be on the way. Mexico's consumption industry could be hard hit by budget cutbacks because it is heavily dependent on government contracts. The Dallas Fed produces a Mexico leading economic index, and it has been on a downward trend since last October. The fall in real oil prices has been the largest component pulling down the index, but over the last three months, five of the seven indicators have been negative.

Turning to the national economy, I am pleased to see the Greenbook forecast of ¼ percentage point increases in productivity growth and potential output. We believe, however, that the Greenbook remains a bit too pessimistic on the inflation numbers. While it is reasonable to agonize and fret over future inflation risks, we need to recognize our accomplishments. The GDP deflator in 1997 was the lowest since 1964. The first quarter's annualized change of 0.9 percent in the deflator was a 43-year low. This year's CPI has grown at the slowest rate since 1986 and before that since 1964. In 13 of the last 16 months, the PPI has been zero or negative. This run of nonincreases is unprecedented, and the rate of deflation shown in the PPI is comparable to that in

1952 - 1953. Against this backdrop, I am pleased rather than displeased by the 4.3 percent unemployment rate reported for April. I would be more concerned about losing ground in our constant battle against the forces of inflation if there was some compelling evidence that stimulative monetary policy was behind the economy's output growth realizations. It seems to me that our recent robust real growth is more of a supply-driven phenomenon and is thus disinflationary rather than inflationary. Given the upward creep in short- and intermediate-term real interest rates and given the strong dollar, the flat yield curve, and soft commodity prices, it appears that monetary policy is not doing anything that would add to the virtual lack of inflationary pressures. This seems like a good environment for us to remain watchful and patient.

CHAIRMAN GREENSPAN. President Guynn.

MR. GUYNN. Thank you, Mr. Chairman. On balance, the pace of expansion in our Southeast region appears to have accelerated somewhat since our last meeting. Retail sales that were soft in March picked up throughout the region in April. Manufacturing, which was exhibiting some slowing seven weeks ago, has come back strongly as measured by production and shipment data reported in our latest regional survey. Our aerospace and defense sector has been boosted by several important new contracts involving General Dynamics in Tallahassee, Pratt & Whitney in Palm Beach, and Boeing in Huntsville. Somewhat offsetting those areas of strength and adding to Bob McTeer's comments, the drop in oil prices has resulted in some contraction in onshore drilling activity, and orders for onshore drilling supplies are reported to be off some 20 to 30 percent. Offshore drilling has been less affected. Also, the record-breaking bookings at our regional tourist attractions have come down from their earlier blistering pace. But new attractions are coming on line, like Disney's new Animal Kingdom, and are expected to keep tourist spending at high levels. Commercial real estate activity remains healthy, but we continue to watch for signs that undesirable

speculative activity is beginning to emerge. Other than pockets in Atlanta and perhaps too much of a good thing in a couple of Florida markets, we do not detect such problems. There continue to be reports, as Al Broaddus suggested, from various sources of large amounts of money looking for deals. Although we hear hints of relaxed lending standards, they always involve the other lender and our examiners have not yet uncovered any serious problems.

The interesting stories about coping with tight labor markets continue. At an earlier meeting, I reported on a Tennessee trucking firm that had idled 10 percent of its fleet for lack of drivers. Over this past period, we have been told that Wal-Mart has postponed some plans for expansion in south Florida for lack of workers. There is a shortage of some 8,000 welders in the Louisiana oil patch and 2,000 more at the Avondale shipyards in New Orleans. Consequently, ship-building and steel structure manufacturing schedules are being pushed out substantially. The oil exploration slowdown should help relieve that bottleneck a little. I find it interesting that these firms in large measure are passing up the opportunity to expand output rather than bid up wages and erode their margins. In a related development, reported that the hospital said "no thank you" to a major health care provider that was demanding still more cost concessions. Generally across our region, unusually large wage increases continue to be primarily in certain skills.

Finally, the Asian effect watch still is not uncovering any significant, negative effects in our area. There are modest losses of business in various industries. The hardest hit by far is the pulp and paper business. A number of paper plants have shut down for several weeks to adjust production. One plant in Georgia with a large volume of Asian business is contemplating shutting down permanently. In addition, the port of Baton Rouge saw its tonnage go down 50 percent in

March compared to a year ago and much of that was lost pulp and paper shipments. All sectors and all geographic areas considered, our region continues to exhibit good growth and good balance.

Turning to my views on the national economy, as everyone else has observed, we find ourselves with a rate of growth that is measurably stronger than all of us expected. Strength in the first quarter, especially with the upward revisions we expect, was well beyond what I was looking for. Aggregate demand remains strong and the sectors where I have been looking for some slowing--consumer spending, housing, and business fixed investment--have not fallen back as I expected. Had it not been for the drag from net exports, we would have blown the doors off, as the kids say. The Greenbook and my own staff's forecast once again lay out the rationale for some slowing. Should that materialize, it seems likely to produce an inflation path with little or no upward movement. I would find it acceptable to maintain a core rate of inflation near the one we have been experiencing.

My personal judgment as to what lies ahead is tempered, however, by our virtually consistent underestimate of growth in recent times. I also am influenced by the sense that I get from talking with directors, a member of my Small Business Advisory Council, and others around the region. That sense generally is one of "damn the torpedoes, full speed ahead." Given the high levels of confidence, continued low levels of interest rates, and readily available credit, I conclude that the probability of getting the slowing that we have in our forecast is not as high as we would like, at least not without a modestly more restrictive monetary policy. Among the people I talk with, I sense stronger and stronger support for a low inflation monetary policy. While we have heard a lot of voices recently suggesting that we leave well enough alone, I think a preemptive move based on our best forecast and judgment would reinforce our commitment to price stability. It would come to be accepted as prudent, forward-looking policy. Thank you, Mr. Chairman.

CHAIRMAN GREENSPAN. President Stern.

MR. STERN. Thank you, Mr. Chairman. The preponderance of the evidence that has become available since our last meeting is generally consistent with the path that the District economy has been on and also with the path that the national economy is currently on. That is, much of our regional economy remains sound and healthy. Labor markets remain very tight. Wages are going up more rapidly than formerly, but not as rapidly as I might have expected given the tight conditions in our regional labor markets. Some of that wage restraint may be due to the fact that there are more and more unconventional ways of compensating people that we may not be picking up in our reports and part of it may be consistent with the thought in the Greenbook forecast that people recognize that they are in fact better off in real terms. The one exception to this is in the natural resources industries and in agriculture in particular. I commented at the last meeting about the reemergence of a two-tier economy in our District--something that we saw in the 1980s--and it is reappearing, particularly among wheat producers and some livestock producers who clearly are having a very difficult time. A combination of wheat disease and reduced prices is affecting output and incomes. It is hard to convey the sense of despair that some of these producers currently feel, but there will undoubtedly be further contraction in the number of producers in parts of our agricultural economy. The land is likely to remain in cultivation, but the trend is toward fewer producers. That, of course, is something that has been under way for decades in the District, but it is now occurring in a period of accelerating economic activity.

As far as the national economy is concerned, abstracting from short-term fluctuations in inventory spending, I am convinced that aggregate demand will continue to grow at a fairly healthy clip. There is a wide variety of reasons for that. One set of reasons has to do with financial conditions, and they have been commented on. Credit seems to be readily available. The monetary

aggregates have been growing rapidly. There are many implicit signs such as the number of mergers and so forth that suggest there is not much monetary restraint. In my view how things play out will depend on what happens on the supply side. There, I think productivity is a key. Of course, productivity is very difficult to forecast. It might grow rapidly enough for supply to keep pace with demand, and we could get a very favorable inflation outcome. I would be inclined to leave it at that were it not for what I take to be quite accommodative financial market conditions. I referred to a few things there. My reading of real interest rates, as I look at the charts labeled "Financial Indicators," is that while they are not low, they are not exceptionally high by any stretch of the imagination. If we think about how the interest-sensitive sectors of the economy have been performing, we certainly would not conclude that real interest rates have exerted much of a restraining influence. One could always argue, I suppose, that those sectors would be growing even more rapidly if real interest rates had not risen somewhat, and that probably is true. But they certainly have been doing well under current circumstances. So, my concern is that we have a set of financial conditions that is setting the stage for a rate of expansion of aggregate demand that is going to exceed what supply is capable of accommodating.

CHAIRMAN GREENSPAN. Governor Phillips.

MS. PHILLIPS. Thank you, Mr. Chairman. As has already been mentioned, the U.S. economy is extremely strong, and the strength is all the more impressive in view of the drag that is being exerted by developments in Asia and by the weakness in the agricultural sector that Gary Stern just mentioned. Central to this assessment, of course, is the labor market. People are working, spending money, buying houses and stocks, and baby boomers are planning for retirement. I'm going to focus my comments today on inflation and the stock market.

First of all, by almost any measure inflation appears to be well contained, even falling. To be fair, some of the improvement in the CPI is accounted for by the statistical and sampling changes, and much of the improvement in the broad indexes is accounted for by energy. Although that could turn around quickly, it does not appear that energy pricing is necessarily one of those temporary serendipitous factors bringing about disinflation or even deflation. More importantly, in the current low inflation environment, businesses and households have available very clear cost and price impulses reflective of pure supply and demand pressures. That is, inflation is not distorting market supply and demand pricing messages. For example, weak demand from Asia means that there is little pressure in international commodity markets. Domestic service and other labor intensive markets that are not directly affected by international competition are seeing some price increases. Although there are exceptions, even wage pressures seem mostly confined to the high labor demand areas like those for computer specialists, stockbrokers, and other capital market or risk management people. Some of that pressure is showing through in the averages but not nearly as much as might be expected with a 4.3 percent unemployment rate. These clear market pricing signals have given employers the wherewithal to focus on their costs and the final product price that the market will bear. If the costs of production, investment, or expansion cannot be recovered in the market, plans are changed. Inventories can be more tightly controlled with available technology. Gone are the days of padding planning estimates of production and budgets with the knowledge that inflation would provide room to cover production, inventory, or other forecasting errors. The result, of course, is significantly enhanced productivity in today's economy. This leads me to a few comments on the stock market.

No matter what model is used, valuation comes down to a function of earnings and interest rates. It may be that market participants are forecasting improved productivity, which

implies higher earnings, or they may be expecting lower inflation, which implies lower interest rates. Either would support P/E multiples in the current range. Or perhaps the bubble economy article in The Economist a few weeks ago is right and the market is wrong. Where does that leave us? I for one think it would be a mistake to focus monetary policy on one segment of financial asset prices, namely the stock market. First of all, monetary policy is a broad-gauged tool that is not sufficiently fine-tuned to single out one set of asset prices, particularly one a few equations away from short-term interest rates. The Economist and others have suggested that the bubble could be pricked with a small rate hike. But with the baby boomers focused on investing for retirement, the market might bounce right back. It probably would take a sizable interest rate increase to move the market--one that would invert the yield curve--and such an increase probably is not justified by the rest of the economy. The move might have to be reversed shortly after it is made in any event. The better strategy, it seems to me, is to focus on the real economy and let market participants do the stock market pricing.

In summing where we are with the current economy, Asia remains a source of uncertainty and for now U.S. inflation is well contained. But unless growth slows considerably either from reduced final demand or inventory adjustments, our virtuous cycle could burn itself out as inflation heats up. Thank you.

CHAIRMAN GREENSPAN. President Jordan.

MR. JORDAN. Thank you. In addition to our usual discussions with directors and advisory council members, we also did a series of what I think of as listening sessions in smaller cities around the District. Their general tone was captured well by one banker in one small city who said that people have more money than sense.

CHAIRMAN GREENSPAN. More dollars than cents! [Laughter]

MR. JORDAN. said that every day people ask him to find them a deal so they can put their money to work. But for balance, who says that everybody already has as much money as they need so that the bank cannot find any more borrowers because there are too many lenders. He constantly argues that we should lower interest rates so the business firms will be more willing to borrow and produce more to catch up with demand; otherwise, we are going to have inflation. [Laughter] This leads me to be concerned about how directors are selected. [Laughter]

A theme among other bankers around the District is that lending is being driven by asset assessments and not at all by cash flows or concerns about future cash flows. Bankers complain a lot that pension funds and insurance companies are doing deals that no sensible banker would be willing to consider. They indicate that income properties such as hotels, motels, strip mall outlets, all kinds of outlet stores, restaurants, and auto parts stores are having problems. The turnover in such existing income properties is occurring at prices that these bankers see as questionable. In Zanesville, Ohio, for instance, they reported that three of the five new auto parts stores that were built last year already were closed in the first quarter of this year. I guess the capitalist system is working in a certain sense. Losses are being incurred.

Another frequent complaint has been the Federal Farm Credit Banks. One banker said he lost 15 percent of his ag portfolio in the first quarter of this year alone to the Federal Farm Credit Banks. That caused another banker to say that they decided to get completely out of ag lending because they could not compete on equal terms with the Federal Farm Credit Banks.

One banker asserted that when he talks to customers about borrowing more, they are unwilling to consider the possibility of a rise in interest rates in the future. They believe that the economy is in a permanently low interest rate environment. To his frustration, when he tells them

that they have to allow for the possibility that interest rates could go up, they just dismiss the thought as being unrealistic because the economy has entered a new era. So, he argues that even a very small interest rate increase would have a significant sobering effect on acquisition prices that are being paid. Another banker commented that all of his customers are bankrupt; they just will not know it until interest rates go up.

In manufacturing, directors have cited numerous examples of acquisition prices that they think are too high. For example,
equipment business said that he is seeing acquisition prices worldwide that he thinks are out of sight. In retailing, Dillard Department Stores bought Mercantile Stores on Monday of this week. When the CEO of Mercantile Stores, who is on my Cleveland board, called me over the weekend, he simply said that he approved it for his shareholders. That was the best he could say about the transaction.

We heard more reports of sharp price increases in farmlands. One that I thought would be of special interest to Don Kohn is that while we were in Wooster, Ohio, we heard that over the course of the past year over 50 Amish families have sold raw land and moved to a neighboring county. They told us that farmlands that were going for $2,000 to $2,500 per acre a year ago are now being sold for over $4,000 an acre.

As an example of the tightness of labor markets, one banker said that whenever he sees a customer talking to a teller for more than a minute or two, it turns out that the teller is getting a job offer. [Laughter]

With respect to construction, one director said that this spring he has seen more announcements of new projects of every type than he has ever seen in the region before. This director is an official of a building and construction labor union. The surge in new projects may be

reflective of the mild winter and early spring. In any event he sees announcements of new projects involving water, sewer, transportation and auto plants, hospitals, schools, road construction, and hotels all over the District. In Newark, Ohio, three new hotel projects have been announced by major chains, financed by institutional investors. So, we will have plenty of hotels in Newark.

As others have noted, there are numerous reports of health care cost increases. The most extreme that I have heard involves Pennsylvania Blue Cross and Blue Shield, which is requesting a 30 percent increase this year.

Turning to the national situation, over 25 years ago Leonid Brezhnev said that the fundamental problem we faced was that we can only distribute and consume what we actually produce, and he felt that a capitalist plot was involved. But we do face that problem. How much demand is out there, what is fostering all of this demand, and what is the probability that we are going to have adequate aggregate supply to keep up with all of it? A year ago, I was hearing reports of good economic conditions, but also about the need to be cautious about taking risks. Now I only hear reports about good economic conditions. People's expectations about returns that are available to them on a variety of investments clearly have risen very sharply, whether it is direct or indirect, in the equity markets, in residential and commercial income properties, and in various types of new business ventures. So, in a relative sense, they view the costs of borrowing funds for investing as having gone down compared to what they can get on more secure long-term financial instruments like Treasuries. I thought that Al Broaddus' initial analysis on this point was correct.

We have all become accustomed to repeating the Chairman's way of phrasing the objective of our policy and its success as being inflation that is so low that people do not even think about it. In that sense, we have been meeting that criterion in terms of output prices. But a corollary also has to be that we do not see people making decisions based on the assumption that

asset prices will rise forever relative to output prices. In that sense, we are not meeting the criterion, and we are not being successful. We all know that asset prices cannot rise forever relative to output prices or income streams. So, the good news is that this too will end. The question is how and when. Over the last two years through the first four months of this year, I have seen that not only is demand for output from households and businesses very strong, but it also is continuing to accelerate. I believe such demand is being fostered by excessive growth of money and bank credit and we see a lot of evidence that supports that argument. We need to see that growth in demand slow down. It is not a question to me of no change or a small change in the stance of current monetary policy in terms of the interbank overnight rate. It is a question of a small change now or a much bigger change later on.

CHAIRMAN GREENSPAN. President Hoenig.

MR. HOENIG. Mr. Chairman, the Kansas City District economy continues to grow at a solid pace, without a lot of change since our March meeting. Manufacturing remains quite healthy. Our survey of manufacturing for April found moderate increases in production, shipments, and new orders. Retail sales remain robust. Real estate sales and construction activity still look strong. Over the past year, we have seen median increases in housing prices ranging from 8 percent in Denver and Kansas City to as high as 15 percent in our smaller Omaha market. There has been more REIT activity in the District's housing markets. District energy activity continues to slow despite some firming in oil prices.

Our farm economy remains stable, but there are some signs of weakness. District wheat production is down in terms of acreage, but the quality of the crop is excellent. So, perhaps there will be some pressure on wheat prices. The beef and pork industries are under some pressure, but overall those industries appear to be stable for now.

District labor markets remain tight, and there is continued evidence of wage pressures. Even so, there is still very little or only modest pressure on output prices.

Turning to the national economy, like others we have raised our projections to reflect the very strong first quarter. That does turn our attention to the issue of inflation. In that regard, some of our discussions have focused on the issues that we've been talking about around this table. First, with regard to pressures on resources, I am convinced that the tight labor markets across the country suggest that wages and labor compensation more generally are going to increase more rapidly. That outlook concerns me especially if the productivity growth numbers decelerate as has been reported most recently. On the other hand, capacity utilization is below its historical average.

Secondly, we are watching carefully the temporary factors affecting inflation, although what we mean by temporary may be changing, especially as we look at food and energy prices that are still basically stable though no longer falling. In energy, nonoil import prices continue to benefit our economy. If these benefits run out, we may well see rising inflation. But whether and when they are going to run out is the question.

Finally, like others here I am concerned about the financial side of the economy. I am concerned about the high levels of money growth. It remains to be seen if the projections of slower monetary growth are going to materialize. I see that as a very important factor for us to consider because I think the rapid growth of money is carrying over into the financial sector where money is looking for places to be deployed for a high rate of return that people have come to expect.

CHAIRMAN GREENSPAN. Governor Gramlich.

MR. GRAMLICH. Thank you, Mr. Chairman. I think that we are approaching crunch time, and there are several arguments for tightening. There are several arguments for sitting

tight as well. Since by and large the tightening arguments already have been made around the table, let me give some of the arguments on the other side of the question.

The first is Asia. It seems to me, and I think it seems to others, that the Asian situation has worsened again. There are two countries that are especially problematic in very different ways, Japan and Indonesia. I think the spillover effects in the other Asian countries are also a little more disturbing than they were when we met in March. So, there could be a bigger impact on the United States than I felt there would be the last time we met.

Secondly, let me talk a little about price movements. There is a slight acceleration of inflation in the forecast. In a way we should be expecting a slight acceleration because we have had some positive supply shocks. Simply as these wear off, we will get some acceleration. The Greenbook mentions a few shocks on the other side, one of them being tobacco. I do not quite know how to interpret the rising rent shock. That may be a shock or it may not be one. In any event, there are some shocks on the other side. In my view, the basic message from the price side is that on their face these price movements seem quite minor. Why do we worry about them? That brings up the third point; it is the NAIRU. We worry because of the unemployment gap.

Some of that unemployment gap goes away in the Greenbook forecast. I gather from the comments that some of you made that the gap goes away in your own forecasts as well. I personally think that some of this gap will go away when future econometricians reestimate their equations for the 1990s. This does seem to be a relationship that is shifting, and time series analysis is not a very good way to analyze that kind of shift.

Let me also put on the table a new uncertainty about NAIRU that I have just begun to think about. I have not heard too many people mention it, but it does strike me that compared to earlier times, firms that need additional labor are increasingly farming out their production to other

countries. Labor conditions are not tight in other countries, especially in to which the production is being farmed out. This may be a new trend. I do not know, obviously, if that is the case or if we could ever demonstrate it in any rigorous way, but I think it is possibly important.

Let me also talk about the bubble issue. First, it is mentioned in the Greenbook that M2 growth has slowed and is wending its way back to within what I will call the Kohn cone. On the stock market, of course the price indexes are high. But when we compare the earnings/price ratio and long-term real interest rates, we find that the equity premium is still positive by about 1 percentage point. None of us knows what the equity premium should be, but I personally do not find it surprising that this equity premium has dropped slightly. The reason is that one of the things that financial innovation has done is to make it possible for average people to buy a more diversified portfolio of equities. The upshot of that is a lower equity premium.

I am still, as I have been all along, uneasy about this situation, and it makes policy a very tough call. But I think that the uncertainties are great enough for us to make a strong argument for holding steady for now. What that does mean, as many others have noted, is that when and if we do make a change, which might not be too long from now, we may have to move sharply. I think we take that cost upon ourselves but for me it is a cost worth bearing. Thank you.

CHAIRMAN GREENSPAN. Vice Chair.

VICE CHAIRMAN MCDONOUGH. Thank you, Mr. Chairman. The Second District's economy continued to expand at a sturdy pace in the first quarter, but there have been some signs of slowing in the manufacturing sector in recent weeks. Job growth in New York and New Jersey slowed a bit from a very brisk fourth quarter, with job losses in manufacturing and government more or less compensating for strong gains in most other sectors. As a result, the unemployment rates were little changed in the two states. Retailers are happily reporting that sales

continued to run ahead of their plans in both March and April, and they are satisfied with their inventory levels. Residential and commercial real estate markets both retain a firm tone. On the residential side, our data indicate that new home construction, existing home sales, and home prices strengthened in the first quarter. Office rents in New York City, especially in Manhattan, rose sharply in the first quarter, and vacancy rates continued to fall. Local banks report some slowing in the growth of loan demand, but they also report further declines in delinquency rates, especially in consumer loans, so the banking sector looks rather good.

At the national level, we do not quite find ourselves ready to buy the productivity improvement argument in the Greenbook. Therefore, although we have about the same picture as the Greenbook for 1998, we have inflation rising substantially more and heading up toward the 3 percent level in 1999. If that should be the case, namely that productivity does not increase as the Greenbook says it will and that I personally hope it will, then I think we would be looking for a monetary policy correction toward the latter part of this year. But I believe we are now in a position in which we can look at the domestic economy and decide that patience has been very rewarding for the Federal Reserve Open Market Committee over the last couple of years. We are at a position that if we continue to get the productivity shock or if it becomes no longer a shock but a real improvement in productivity, then policy at its present level would be quite acceptable. Even if productivity growth does not continue to benefit us or other pleasant supply shocks do not come along, it impresses me that we do have some time to wait.

When the Federal Reserve is in a position of being able to wait because that is, I think, the best policy for domestic purposes, it gives us the opportunity to give the international effects of our actions a rather high priority. From that perspective, I believe that most times the best thing the United States and the Federal Reserve can do is to manage our own economy well

because of its huge importance in the world economy. At present, I sense that the world economic situation continues to deteriorate. The Indonesian situation is still very touch-and-go, with nobody sure of what the political developments are likely to be and the economy getting more desperately bad every day. Thailand and Korea are improving, but in both countries the improvement is in the external sector, and there is a very long and a very difficult domestic workout ahead for both countries. It seems to me for reasons that we discussed in conjunction with Peter Fisher's report earlier that the situation in Japan is, if anything, getting more risky, not less, and it continues to be the single, greatest threat to a stable world economy.

Elsewhere in Asia, India's decision to test thermonuclear weapons caused the United States to react with financial measures against India, which the Indian economy may or may not be able to tolerate well. However, if Pakistan responds as it may very well do and we have to impose similar measures against Pakistan, its very weak economy could implode rather quickly. The measures that were taken against Mexican banks yesterday, however justified, are very likely to create considerable backlash politically in Mexico in a situation in which the leadership is already having difficulties, and they almost certainly are going to have some serious spillover effects on the Mexican economy. So, the rather optimistic view that one could have about Mexico certainly has to be tempered.

Russia is getting ever more highly volatile. The history of Russia has been a long conflict between the westernizers and the nationalists. The nationalists now have a very popular hero available to them after General Lebed's election victory in Siberia on Sunday. The situation around them with NATO's expansion, however much everybody may think that is a fine idea, gives additional strength to the nationalists, and if they come to power, we are going to have a very destabilizing regime--destabilizing not only for Russia itself but for its neighbors.

It seems to me that as we look around the world, we see a good American economy. The British are doing reasonably well, but unlike us, their economy does not appear to be benefiting from rising productivity. Therefore, a correction is likely for the British economy. Actually, the two good lights are continental Europe and ourselves. On balance, it seems to me that international considerations would say that an interest rate increase by the Federal Reserve, which could conceivably be justified domestically for preemptive reasons, would carry such a degree of risk internationally that I think it would be extremely ill advised. Thank you, Mr. Chairman.

CHAIRMAN GREENSPAN. Governor Ferguson.

MR. FERGUSON. Thank you, Mr. Chairman. In the intermeeting period, I became more certain that the sense of upside risks that many of us expressed at the last meeting was continuing to hold true, and I have detected a bit of that sense today in our discussion around the table. However, I must admit that the economy is showing some signs of an ongoing uptrend and also of some possible emerging weakness. The first-quarter GDP, as Mike Prell said, was a "stunner." In my view, it does require some general reassessment of our outlook for the rest of this year. Early indications of retail sales and the orders and shipments data suggest that the robustness seen in the first quarter, driven by both consumers and producers, is likely to continue for the foreseeable future. Obviously, labor markets are tight, so there is not much more to say there. Manufacturing has not yet returned to its December levels. Factory output and operating ratios are below what had prevailed last year. However, manufacturing output did grow about 0.3 percent last month. So, while there are signs of weakness in that sector of the economy, it may be turning around a little. On balance, I would agree with the characterization that I heard before, which is that the evidence bearing on the near-term course of the domestic economy seems somewhat inconclusive.

What worries me in this mixed picture is that there are some special factors that benefited us on inflation in the past that may well be on the wane now. In particular, I am worried about indications of some acceleration in compensation. It is true that the ECI increased at a low 2.7 percent annual rate over the three months ended in March, but the 12-month wage and salary compensation components have broken through the 4 percent level for the first time in several years. Health insurance costs may also be giving some indications of an uptick, even though the evidence is primarily anecdotal. I did not hear very much about that as we went around the table, but there was some discussion of that here at the Board. Now, these increases in labor costs may well be occurring at a time when productivity growth may have moved up to a new higher trend, but I do wonder if even 1.5 percent growth in productivity will be enough to offset overall increases of 4 to 5 percent in wages and salaries. The changes in labor compensation that may be ahead are particularly worrisome because I think they may occur in the context of flattening or possibly declining profit margins in the corporate sector. Some of these declining profit margins seem to be hitting the high-tech sector as well. As we well know, some of the benefits we have had in the economy have been driven by relatively low, in fact declining, prices in the high-tech sector. That may start to change.

The second risk that I see in this economy is the "immaculate" slowdown in the growth of economic activity that Mike Prell has presented in the Greenbook forecast. I am concerned that it may well not work out the way that Mike has projected. If inventory investments reflect the expectations of sales growth, and I think some members have referred to the inventory-sales ratio as not being out of line, then I am quite concerned because I believe as do others that consumers are not likely to show much restraint. Obviously, there are plenty of jobs. A few members also have pointed to some inconsistencies on the income side of the projections. As many

have said, significant wealth considerations are driving consumers. I think we can see on the basis of what happened in the first quarter that inventory investment might not slow nearly as much as the Greenbook has projected. On balance, the domestic indicators are, in my judgment, generally pointing toward mounting upside risks.

Turning to the international side, I think as does Vice Chair McDonough that the turmoil in Asia is entering a new and highly unpredictable social and political phase that we have not seen before. At our last meeting, I reported that the economies of Korea and Thailand might be bouncing along the bottom for quite a while. Now, it seems as though the Indonesian situation may have placed a trap door beneath them, and the outlook for the entire region looks a lot less certain than it did even a few weeks ago. However, that situation is quite fluid and could return to an improving trend relatively quickly. Japan is even less likely to act as an engine of growth in the near term than I thought earlier, so we cannot look there for help. With regard to the other major economies in the region, Vice Chair McDonough mentioned India, but I would turn our attention to China. China has committed to holding their peg, which I think is an act of great international diplomacy and statesmanship. But its success does depend on strong discipline and also on an ambitious target of 8 percent growth, which seems less and less likely. Therefore, in this Asian context, I think China adds a bit of uncertainty.

Finally, let me respond or refer to some of the comments that my colleague, Governor Gramlich, made with respect to the NAIRU. I agree with him in the sense that I do not believe we know exactly what the actual NAIRU is. There are people in the room who surely will tell us that it is an unemployment rate of 5.5 percent. There are others who will say that it is 5.2 percent. There are those who probably thought a year ago that it was 6 percent. We don't actually know. I believe that the capital deepening and labor quality improvements of recent years may have

allowed for an increase in productivity. I hope that is true. I believe that businesses are now focused more on achieving efficiencies, and that structural changes have made the economy somewhat less inflation prone. I do not believe, however, that that means all limits have been removed. I think we are very close to those limits.

In summary, based on domestic concerns alone, I think we are probably focused correctly on the upside risks. I believe that on the basis of domestic concerns alone it might be reasonable for us to consider acting in the near future. However, I don't think we need to act now as I expect that there will be only a slow unraveling in the forces that have held inflation at bay. I think that for international reasons, it is appropriate for us to wait and see. That is what is in order at this point, and I suspect there will be greater clarity in the economic outlook in the near future. Thank you, Mr. Chairman.

CHAIRMAN GREENSPAN. Governor Rivlin.

MS. RIVLIN. I am substantially where Roger Ferguson is, and I'm not sure I can put the case any better; he presented it very well. We have a very difficult problem. We have had an extremely strong economy, which continues to be strong. It has been an extraordinary performance. Every time we meet we have a few more anecdotes about the tightness in labor markets, and we are beginning to get more and more signs of tightness of other sorts: some speculative building, some land price increases, evidence of that kind. But I believe we have learned a few things about the economy in the last couple of years that lead me to be reluctant to move quickly. One is that the economy clearly is not as inflation prone at low levels of unemployment as we thought it was. Some of the reasons may be temporary and we need to watch to see if they are turning around. The rising dollar, the falling oil prices, and the slow growth in the costs of health care benefits may all be exerting beneficial effects on inflation that are not going to

last. But some of the reasons seem to be much more lasting. I believe that there has been a productivity upshift, probably from a combination of technological developments, new management reforms and attitudes, deregulation, global competition, lower inflation expectations, and new ways that businesses are reacting to labor scarcities.

The second thing I believe we have learned is that tight labor markets do us a lot of good. They generate more experienced workers, more training, more education, more opportunities for promotion, and more incentives to invest in oneself and in one's workers. That investment in skills actually is happening and should pay off in productivity improvements in the future. The low unemployment levels seem to generate pressure for capital deepening, which may have an unusually high payoff in the present state of our technology. None of this means that there are no limits, as Roger Ferguson put it. The economy cannot continue to grow at the first-quarter pace without running out of workers and generating serious wage and eventually price pressures.

I would be very worried but for the prospect that the expansion will slow for the reasons that are set forth in the Greenbook. I tend to think that the Greenbook is a bit optimistic about Asia. We may not see a rout but more deterioration in Indonesia, Korea, and possibly also in Japan.

That leaves the stock market, which clearly is too high. I'm not sure that anything we might do here would provide a good signal, nor is signaling the stock market an appropriate way to use monetary policy. I am inclined to the view that we will get a correction as earnings deteriorate and, if I'm right about Asia, as that source of deterioration sinks in. So, I would join those who would urge that we wait yet another six weeks and see where we are because I think a tightening might prove unnecessary.

CHAIRMAN GREENSPAN. Governor Kelley.

MR. KELLEY. Thank you, Mr. Chairman. This Committee is always confronted with complexities and conundrums. Over time they tend to be largely matters of degree and perhaps relative significance at a given point in time, but today it seems hard in many cases to know how to get the sign right. A few key examples, starting with Asia: At the time of the Humphrey-Hawkins meeting in February, most of us felt that the impact of Asia was going to be just about right in that it would give us just enough slowing. I think that is pretty much the view that the staff and the Greenbook still carry. However, in just 90 days we have been through two clearly identifiable cycles of how we have felt about the Asian impact on the U.S. economy. It looked as if it was going to be more benign around the time that we met last, and now, as President McDonough and others have observed, things look very ominous again.

In the case of the interaction between productivity and compensation, which is obviously a key determinant of costs and hence prices, it is hard to read either productivity or compensation trends right now. We have new calculations on productivity, which I enthusiastically welcome, that suggest far more improvement than we thought earlier. On the other hand, in the area of compensation we have had an ECI in recent quarters that has been remarkably benign, particularly the latest reading which actually was down. To what extent are we entitled to rely on that kind of information and for how long? If both of these factors behave at all positively, and I think there is a significant chance that they might do that other things being equal, this virtuous cycle that we have been experiencing could go on for a very long time.

In the case of inflation, the CPI shows very clear signs of moving up on an adjusted basis. One way to look at those adjustments is to say that some time back we were at price level stability and didn't know it; now we are in the process of losing it. But as President McTeer and others observed, there are virtually no other price series that confirm this deterioration.

What about inventories? We have had an amazingly strong accumulation of inventories recently, and yet the aggregate levels do not look excessive. I'm sure there will be a drag of some sort from inventories, but how much and when is it going to happen?

We just cannot know yet how all this is going to develop and net out. I feel that we will have to tighten policy, but I do not believe that we should tighten policy now. I lack the confidence to sit tight because I think there is too much uncertainty to say that we are sitting tight, but I do suggest that we should sit still. [Laughter]

CHAIRMAN GREENSPAN. Governor Meyer.

MR. MEYER. Thank you, Mr. Chairman. I will be referring to a couple of charts that I am having passed around.[2] At the last meeting, many members of this Committee expressed concern that inflation risks might be increasing in light of the prevailing tightness in labor markets and the momentum in domestic demand. The question we confront today is whether developments since the last meeting should encourage us to relax that concern or to act on it. Of course, a serious alternative is to remain concerned but on the sidelines, perhaps increasing vigilance instead of rates.

I want to focus my remarks on the labor market, inflation data, and on the question of whether the evidence points to a still higher trend rate of growth in productivity and the prospects for an imminent slowing to below-trend growth. I will have some comments on the monetary policy implications of the stock market and of Asia during the policy go-around.

At the last meeting, many emphasized that it was important that economic growth slow quickly and significantly given the already tight labor markets. I refer to this concern as growth risk. Specifically, it is the concern that above-trend growth would raise utilization rates further and thereby exacerbate the risks of higher inflation. The bottom line is that the tighter labor

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[2]/ Copies of the charts used by Governor Meyer are appended to the transcript. (Appendix 2)

market we worried about last time has already arrived. Utilization rates rather than growth per se drive inflation pressures. A slowing of growth to trend at this point would only stabilize utilization rates at their elevated levels.

It is true that a decline of 0.4 percentage point in the unemployment rate in one month makes no sense in terms of underlying fundamentals. But neither did a constant unemployment rate over the previous five months during which growth was so robust. I, like the staff, would assume an upturn immediately ahead to an unemployment rate of about 4-1/2 percent. Growth turned out to be 2 percentage points faster in the first quarter than expected at the last meeting, the unemployment rate is well below where we expected it to be, and the staff forecast for the second quarter was revised upward. The bottom line is that if we were worried about the tight labor markets at the last meeting, we should be more worried today. I am.

What about the prospect of an imminent slowing in growth going forward, perhaps to below trend in the second half as in the staff forecast? It seems to me that the economy has somewhat of a knife edge quality with respect to the pace of the expansion. On the one hand, the fundamentals continue to look very positive. There is impressive momentum in domestic demand; financial conditions appear to be very supportive; and interest-sensitive sectors of the economy continue to prosper. It is not hard to imagine that we could have continued above-trend growth ahead.

Still, three factors are likely to weigh on the expansion going forward. First, assuming that the latest staff estimate of a $103 billion increase in inventory accumulation in the first quarter is on the mark and is not revised down going forward, the rate of inventory investment in the first quarter is almost certainly unsustainable. Indeed, the two most impressive numbers related to this forecast are 4.3 and 103. The 4.3 percent unemployment rate in April highlights how

tight labor markets are, and the $103 billion rate estimated for first-quarter inventory investment is a triple-digit weight hanging over the expansion going forward. At any rate, while there do not appear to be stock imbalances, there likely will be if the flow rate of accumulation does not slow immediately. A lower rate of inventory investment, a flow correction, should lead as opposed to follow a slowdown in economic growth.

Second, the external drag from a combination of the emerging Asian economies, Japan, and the long cumulative appreciation of the dollar should continue, although at a diminished rate after the first quarter.

Third, the positive impulse from the stock market should at least diminish, partly in response to a slowing in the expansion and hence in the growth of earnings. This is in line with the staff forecast and would contribute to a slower growth of the economy in 1999 after the effects from reduced inventory investment and external drag had mostly run their course. Particularly because of the interaction of inventory correction and external drag and perhaps with some help from the stock market, there is the potential for a significant slowing immediately ahead. Still, there is some question about how much longer one should wait for this slowdown especially in light of the fact that growth has consistently outperformed expectations over the last two years and in light of the very tight and indeed now tighter labor markets.

At the last meeting, members of this Committee expressed the following concern about wage pressures in the context of tight labor markets. Here is a quote from the minutes: "but additional improvements in productivity growth could not be counted on to offset further increases in the rate of growth of labor compensation, which were more likely to occur if labor markets were to tighten further." The staff, however, does plan on higher productivity growth to offset the effects of tighter labor markets, at least for a while. This is very much central to their forecast.

The staff's decision to raise productivity growth reflected their assessment of two new pieces of data: the adjusted productivity series, reflecting a correction of the data on hours--the length of the pay period--and the report on multifactor productivity that indicated faster growth in capital services in 1996. I followed with a lag and some discount factor the staff's earlier upward revision in their estimate of trend productivity growth. Perhaps I will ultimately follow this revision as well but not now; I have some reservations. My lower estimate and the staff's higher estimate work about equally well in explaining the recent decline in unemployment via Okun's Law. The adjusted productivity series provides a hint of a sharper break in the trend rate of productivity growth in mid-1995 but it is only a hint in my judgment and not definitive enough for my taste to justify an upward revision in my estimate of the trend. Indeed, assuming a constant trend from 1990 onward, the staff's productivity equation yields an estimate of just 1.1 percent for the trend rate of productivity. There is in this case no difference in the estimated trend whether published or adjusted productivity data are used. This trend is also identical to the trend estimated over the earlier 1974 to 1990 period. While the staff's analysis is suggestive and it definitely got my attention, it appears to me that the recent robust productivity growth can be explained by a combination of a more modest increase in productivity and a normal cyclical rebound.

What about the inflation and the wage data? Should developments since the last meeting make us less concerned about the potential for an acceleration in wages? Let me focus first on the recent data on core CPI. The staff projected a 2.2 percent rate of increase for this measure over 1998 and over 1999, the same as over 1997. On a consistent methodological basis, however, this translates into an increase from 2.2 percent over 1997 to 2.4 percent over 1998 and 2.7 percent over 1999. The first question about inflation is whether the trend in core CPI is stable or declining or already rebounding. The 12-month increase is now 2.1 percent, a tenth below 1997.

This perhaps suggests an underlying rate of inflation that is still stable to declining. But as indicated in the charts I have passed around, the annualized inflation rates over three-month and six-month intervals exhibit quite a pronounced upward trend. The three-month rate is now 2.8 percent and the six-month rate is 2.5 percent. This leads me to suspect that the underlying inflation rate may already be higher going forward than the staff suggests and it may also be rising faster than they project.

Let me admit that I have taken a very different approach in interpreting the CPI data than I did with the productivity data. I weighed more heavily the lower frequency data on productivity, down-playing some signs in the higher frequency data that there might have been a recent break in trend. On the core CPI on the other hand, I emphasized the higher frequency data in an effort to identify a change in the trend quickly. I admit that I was looking for faster inflation and I found it. I was not looking for higher productivity growth, and I did not find it. But this is where my intuition has taken me.

The wage and compensation data, including ECI, compensation per hour, and average hourly earnings, point to some upward drift in wage and compensation rates. But as shown on the second page, the acceleration is much more evident in the 12-month rates than in some of the higher frequency data. Especially in the case of ECI, the latest quarterly reading is more benign than what is suggested by the 12-month changes. Putting it all together, on balance it seems to me that the risk of higher inflation has escalated a bit further since the last meeting.

CHAIRMAN GREENSPAN. President Poole.

MR. POOLE. As with everybody who asks business leaders, bankers, and others about labor market pressures, we see such pressures in the Eighth District. In addition to staff input on this issue, I have been traveling around the District, and I participated in three sessions in

different cities. In these sessions I was particularly trying to extract from people evidence of price pressures. What we get by and large are stories about wage pressures. The stories about price pressures continue to be rather isolated. It looks as though firms are either turning down business or just finding ways to deliver the goods or the promised services at prices that are more or less where they have been.

The labor market continues to tighten. One of our directors put it this way: a woman who runs a computer services firm said that she can not even find recruiters anymore! [Laughter] There is no question that the pressures are there. I keep asking myself how we should interpret these apparently inconsistent findings on the wage side and the labor market side and on the price side. What I come out with is that there are solid, perhaps even rock solid, expectations in the marketplace of continuing low inflation. Firms do not want to permit costs to get built into their structures that they do not think they can realize in future prices. Therefore, the wage increases that we are seeing by and large are in isolated areas or in areas where firms find that they can improve the productivity of their operations one way or another and meet what they view as very, very competitive price conditions.

I worry, though, that these solid expectations of continuing low inflation will last only so long as we continue to see good performance on inflation itself. If inflation starts to rise, I worry that some of these expectations will start to come unstuck. The process could become cumulative, and we could see a much quicker change in that outlook than we would all like to contemplate.

I recall that the situation in the U.K. in the late 1980s was rather the same. The measures of inflation expectations in the U.K. indexed bonds compared with the conventional bonds did not show that the market was successful in foreseeing the outbreak of inflation in the U.K., which, of course, was quite substantial. The market does not necessarily foresee what may

be ahead. I think the market is relying on us to make that forecast come true, and we should be very cautious about saying that there is a benign situation, that there is no problem just because the market doesn't see a problem. The market is looking to us to make that forecast come true. Those are the only comments that I want to offer at this point.

CHAIRMAN GREENSPAN. I assume we have coffee out there even though it may be a little cold. [Laughter]

[Coffee break]

MR. KOHN. In view of the hour and the fact that many of the members and staff have crowded agendas for this afternoon, it has been proposed that we postpone discussion of the agenda item on disclosure policy until the next meeting.

CHAIRMAN GREENSPAN. I think that is a fairly sensible idea. There is no point in rushing it, and there is absolutely no urgency that we resolve this issue quickly. Can we put it on the calendar for the June 30-July 1 meeting?

MR. KOHN. We might be able to start that meeting a little earlier.

CHAIRMAN GREENSPAN. Unless there is any objection, consider it done. Now, back to monetary policy. Mr. Kohn.

> MR. KOHN. Thank you, Mr. Chairman. When the Committee last met it was concerned about the risk of an upward trend to underlying inflation in the future, and in some respects that possibility seems in fact to have acquired more weight over the intermeeting period. In particular, the economy looks as if it will be putting more strain on the labor markets.
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> Perhaps accentuating concerns, the slowdown in economic growth to a more sustainable pace is still just a projection. To date, despite the evident increases in real interest rates, financial markets show few signs of any erosion in the accommodative conditions that have been bolstering demand. The stock market continues to defy the gravity of weaker earnings. Banks are still easing terms and conditions for business loans, have begun to do the same on commercial real estate lending, and have about stopped tightening them on consumer loans. Perceptions of reduced risk in financial markets--"complacency" as the Chairman

has called it--probably owe in part to a sense that the Federal Reserve is on hold for the foreseeable future and likely would not act before warning the markets first. On the price side, the steadiness of the dollar against an average of major currencies this year after last year's appreciation and the bottoming out of oil prices after earlier declines suggest that a couple of the factors that have helped to damp wage and price increases will fade over coming quarters.

By themselves, these influences would seem to argue in favor of a small firming of money market conditions, as in alternative C. In these respects, analogies could be drawn to the situation in March 1997, when the Committee chose to "buy some insurance" against the inflation risks associated at that time with strong aggregate demand, or last September, when tightening labor markets put the Committee on a path toward policy firming in early November, had not Asian events intervened.

When a wider array of factors is considered, however, the shift in inflation risks may not be so clear cut. In the staff forecast, inflation in 1999 is no higher than in the last Greenbook. Once again, new information on and analysis of the supply side of the economy provide a counterweight to stronger demand and higher output. Mike has discussed the key elements in the forecast. Most importantly, as he noted, the rise in the level of output has been about matched by an increase in estimated potential, owing to faster trend productivity, that leaves the output gap about unchanged. And that higher productivity also is manifest in a temporarily lower NAIRU as firms compete for more profitable business.

As a result, the staff forecast suggests no greater urgency for firming policy than in March. But, as was the case then, the outlook does embody a significant upward incline to underlying inflation at the current federal funds rate. Several of you noted our concern that inflation might rise by more. In the context of such forecasts, to remove the inflationary tendency and lock in something like the current low inflation rate probably would require an appreciable rise in the federal funds rate, and the sooner you get started, the easier the task.

But even if the Committee finds the prospect of higher underlying inflation troubling, it still may see some reasons to consider holding off moving against the potential pickup, at least for a short time. One is the instability plaguing much of Asia. To be sure, a one-quarter point increase in the federal funds rate is not going to have much effect on the developments unfolding in Indonesia, which are being swept along on more fundamental political and economic tides. But it could affect other Asian markets and economies, which are a bit more fragile owing both to the Indonesian situation and to the growing recognition that the required real adjustments are going to be painful. And, in the last few days, turbulence in Asian markets seems to be spilling over outside the region. The response of the emerging financial markets to the leak of the Committee's

bias suggests that interest rates on emerging market debt would rise by as much or more than dollar rates. Small interest rate increases in those financial markets might not have much effect on the output of their economies, but one can not be sure. Any effects on the real economy may be offset through further currency depreciation, though that may not be viewed as particularly helpful to financial stability. Of course, from the U.S. standpoint the corresponding rise in the dollar would be one channel through which your tightening would damp demand on U.S. productive capacity.

In addition, just how markets here and abroad would interpret a firming in U.S. monetary policy is quite uncertain. The effects could be significant if global markets took it as the first of several installments or thought that it presaged firming actions in other industrial countries where economies are strong, including Canada, the United Kingdom, and "Euroland." Even small weight given to the possibility that spreading instabilities threaten to adversely affect the U.S. economy and financial markets, and that the turmoil itself might be exacerbated by a policy tightening, might incline the Committee toward setting a higher hurdle in terms of purely domestic concerns for taking action at this meeting. That is not to say that such a hurdle could not be crossed, though. If the Committee saw a distinct threat of an inflation emerging in the United States whose seriousness would be significantly exacerbated by waiting, a small firming now might be less destabilizing to U.S. and global financial markets than larger increases later.

A second consideration that may argue for no change at this meeting is uncertainty, especially about the supply side of the economy. The members have noted continuing under-predictions of economic growth over recent years. As well, the staff, Committee members, and other forecasters have persistently over-projected inflation over the last few years even as the economy was growing faster and operating at a higher level of labor force utilization than expected. The forecast errors are partly attributable to one-time developments that could not easily be anticipated, such as the drop in oil prices. But they are also indicative of the shifting relationships among labor, capital, wages, and prices lying behind the aggregate supply process, and these could persist. The events of the past couple of years underscore how tenuous is our understanding of how much can be produced over time without adding to inflation pressures.

This presents considerable difficulties for policymakers, and I'm not sure the current state of economic modeling is as much help as we might hope for. One natural response to this uncertainty is to be less preemptive in your policy strategy. It's hard to be forward-looking when you can't see the road ahead and are unsure about the accuracy of the map. Of necessity, policy decisions end up being made more on the basis of incoming information about emerging inflation pressures and less on the basis of forecasts. To a considerable extent, this is what the Committee has done over much of the last year. Under current

circumstances, with even early warning signs of higher inflation difficult to spot, following this strategy might also weigh on the side of standing pat.

The benefits to not tightening on forecasts accrue when such a firming turns out not to be needed and the economy has produced along a higher path in the interim. And, the potential costs of risking an updrift in inflation may be lower now than a few years ago. The resource distortions from a rise in inflation starting at a 2 percent rate may be smaller than those from a 3 percent base. Moreover, the persistence of low inflation over recent years, by bringing down and anchoring inflation expectations, should mean that counteracting inflation pressures once they become evident is less disruptive than it would be in a more volatile inflation environment.

While the costs of not acting as preemptively may be lower, they may not be negligible. If a policy action turns out to be required, the longer it is postponed the larger the disequilibrium and the more wrenching the subsequent real adjustment to the economy. To avoid embedding higher inflation and to minimize eventual economic instabilities, a more backward-looking policy is likely to require a prompt and vigorous response once problems emerge. Bond markets anticipating such responses will still help to stabilize the economy. But if uncertainty induces you to wait for the "smoking gun" of a string of higher inflation numbers, some of those costs of waiting are sure to be incurred.

However, even a less forecast-based strategy, should the Committee follow it, does not imply that you would necessarily await a string of bad inflation numbers to firm policy. Incoming data over the next weeks or months suggesting continued unsustainable growth and further tightening in labor markets, persistent ebullience in financial markets and in money and credit growth that was feeding into aggregate demand, and greater cost and profit margin pressures still could be sufficiently unambiguous signs of heightened inflation risks to trigger firming before inflation itself turns noticeably higher.

CHAIRMAN GREENSPAN. Thank you. That was an excellent and balanced presentation of the problems that we confront. Questions for Don? If not, I will start.

It is apparent that our discussion has been one of the more interesting roundtables that we have had for a while in our effort to assess the underlying crosscurrents in the economy and the policy tradeoffs. I will cover the same subject matter and review it point by point.

First, I agree with a number of you who view the Asian crisis and the international financial system as involving crucial issues. I must say that I am a lot more pessimistic about Japan

than is implicit in the Greenbook analysis. In my view, that huge economy is under significant downward strain, which unless it stabilizes will spill over into the United States in ways that I do not think we can fully anticipate at this point. Fortunately the size of the Indonesia economy is not of sufficient magnitude to have a major impact on its neighbors or the United States. Nonetheless, it is enough to be a serious issue.

The Indonesian markets, as you know, are exceptionally weak and effectively shut down.

A very significant but not widely discussed problem is the Korean labor situation. Korea has a big economy. It is a lot larger than Indonesia's though obviously not nearly the size of Japan's. It has improved quite significantly; you will recall that they had virtually no usable central bank reserves, and now they have built them up to almost $30 billion. In that regard, if it were not for the current labor unrest and the political problems, I believe Korea clearly would be a stabilizing force in Asia. But as best I can judge, the Korean economy has started to turn in a negative direction, and I don't think we can forecast the magnitude of the potential decline.

The second issue that we have discussed is the U.S. stock market. Its performance, as we are all aware, has been crucial in this virtuous cycle. The rise in stock prices has had a variety of positive results, including the stimulation of increased effective demand that in turn has led to larger federal government revenues that first lowered the budget deficit and more recently produced a surplus. The market is still exerting a positive effect on the economy, although stock prices have changed little on balance since the last FOMC meeting.

I have been giving a lot of thought to the question of whether we are experiencing a stock market bubble, and if we are, what we should do about it. If the market were to fall 40 or 50 percent, I would be willing to stipulate that there had been a bubble! Now, if we invert that, we have to be able to say before the fact that we define a bubble by being willing to forecast that the market is going down, say, 50 percent. That is a tough forecast to make. We all have our capital asset models--more or less sophisticated time discount structures in which we evaluate what is going on in the market--but in truth we have to take account of the fact that we have an international market with millions of people who make decisions for a wide range of reasons. It is very difficult to forecast the market when we are dealing with a huge number of money market professionals who know as much about what is going on with individual stocks as anybody. These people currently are buying individual stocks at prices that create a Dow Jones industrial average of over 9,000. It is not that they are buying the market per se. In the circumstances, it is very difficult for us to judge whether the market is overvalued and is about to go down. One can readily say that the equity premium that one derives from a capital asset model is showing such and such and is a low number historically, that expected earnings are going up at an exceptionally high rate, and that this does not make sense because it implies that profit margins will increase indefinitely. One can make all those statements, as I do, and conclude that the stock market is significantly overvalued, which I do. But I ask myself, do I really know significantly more than the money managers who effectively determine the prices of these individual stocks? I must say that I, too, feel a degree of humility about my present ability to make such a forecast.

The more interesting question is whether, even if we were to decide we had a bubble and we wanted to let the air out of it, we would be able to do it. I am not sure of the answer. We have observed, in fact, that letting the air out of the bubble, if it exists, could well be

counterproductive. I cannot be sure but I suspect that the fact that the economy did not begin to unwind after the more than 20 percent stock market crash in October 1987 probably served to create an upside potential in the Dow of a couple thousand additional points. As you will recall, as soon as things began to stabilize, investors concluded that if this was the worst that could happen, they should get back into the market. We have had three or four similar episodes, though not of the 1987 magnitude, that have reinforced the view that the upside potential of this market has risen. So, we have to be very wary of the notion that a small 25 or 50 basis point move could permanently unwind this bubble. Unquestionably, it will do so for a short period of time, but it may then merely set the stage for a further rise that may in fact be highly destabilizing. I have no doubt that if it were really our desire to unwind a stock market bubble, we could do it. I have no doubt that a 200 or 300 basis point rise in the funds rate would do it overnight. I'm not sure that there is a point in between, a saddle point, where we could hit the market, defuse it, stabilize it, and nothing else would happen. There may be such a point. I don't know how we would ever find it. I am certain that if it were the policy objective, we would fail.

After thinking a great deal about this and wondering how we should integrate this issue into our evaluations, I have in effect come out where Bob McTeer has. The question, essentially, is whether we have any great insight into how to handle asset values as a part of monetary policy. In principle, we have to recognize that asset values have an effect, so we have to consider their impact and we certainly do so in terms of the wealth effect. But how we can alter the pattern of market valuations, as distinct from its effects on consumption and other sectors of the economy, is somewhat beyond me. I have concluded that in the broader sense we have to stay with our fundamental central bank goal, namely, to stabilize product price levels. To the extent that the financial markets affect the factors that influence product price levels, I think monetary policy

action is appropriate. But I believe the notion of merely hitting the market itself is an illusion. It may be something that we could discuss at great length as a chapter of a textbook, but I doubt very much that we know how to implement it from a policy point of view.

The third and crucial issue that has come up today relates to wages and productivity. I agree that the ECI has changed at a far more modest pace than one would have expected on the basis of past Phillips curve calculations. But compensation per hour figures are running somewhat higher and in fact tend to negate the conclusion one draws from the ECI. So, there is an interesting question as to which set of data is more appropriate. There is no question in my mind that the ECI, properly measured, does reflect the wage structure. I suspect, however, that in periods like the present when there are extreme shortages of certain skills in the workforce, a lot of the increases in labor compensation are not showing up in higher wages for a given job but rather in promotions and the like because that is the way business firms can avoid certain internal problems. The overall effect cannot be large, but it has to be of some size. So, I would be somewhat less sanguine than I might otherwise be about how good the ECI numbers look, though there is no way of getting around the fact that the wage pattern has been somewhat subdued.

The more interesting data that are beginning to emerge are those that provide increasing evidence that the underlying trend of productivity is moving up. One can disregard the noncorporate sector, which I think abnormally constrains the number we use for total nonfarm productivity, and look at the area for which data are clearer--that is, the nonfinancial corporate sector. There is, of course, a statistical discrepancy between the output data from the spending side, even if we make adjustments for the noncorporate area, and the data from the income side. The advantage of looking at productivity from the income side, as the BLS formerly did, is that the income side is internally consistent with the price numbers. The reconciliation from productivity to

prices, if we are dealing with output measured from the spending side, requires us to make some judgment about how to handle the increasing statistical discrepancy, whereas dealing with the income side eliminates that need. I'm not saying that one approach is superior to the other as a pure measure of productivity, but I wanted to point out that the income side approach is an easier way to get through to the price relationships.

Having said that, the published productivity data for nonfinancial corporations have shown some modest decline over the last three years from a 3 percent rate over the four quarters ended in the first quarter of 1996 to 2.7 percent for the four quarters ended in the first quarter this year. However, when the hours data are adjusted for the length of the pay period problem, the comparison reverses significantly. Instead of going down from 3.0 to 2.7 percent over the last two years, productivity growth goes up from 2.7 to 3.2 percent, 3.2 percent being the staff's estimate of the rate over the four quarters ended in the first quarter of this year. The first quarter by itself has an estimated 3.4 percent annual rate of increase and the estimated increase in manufacturing for the month of April is .8 percent. So, I find it very difficult to set aside the evidence that these data are indeed accelerating.

The staff put together a set of data that in essence cyclically adjusts these numbers to observe how productivity growth in the nonfinancial corporate sector would have looked at a fixed operating rate, i.e. neutralizing the business cycle. While, of course, the growth in productivity is somewhat slower, it is only marginally slower. The pronounced acceleration in the trend starting in early 1995 is unaffected.

You may recall the argument I made a year or so ago that an explanation is required for the sharp increase in capital investment, especially in high-tech areas, that started in 1993 and has persisted since then. One explanation, in fact a necessary explanation, is that plant managers

who were involved in planning capital investments anticipated that a significant increase in the prospective real rates of return on facilities could be achieved as a result of emerging new technologies. If that had been a mistake on their part, one would have expected capital investment to run up for a year or two and then start down again when the lower-than-anticipated rates of return actually showed up. Instead, if anything the whole process has accelerated. If one were to calculate the real rates of return that are implicit in the sharp rise in investment, I think one would find that the actual real rates of return have gone up, but I have not done the calculation yet. I know that real profits have risen and therefore the actual incremental profit has gone up, but I am not sure whether it has gone up more than the denominator, the capital investment to which it applies.

It is clear that a very significant acceleration in productivity has occurred compared with the previous trend. A goodly part, perhaps most of it though not all, is attributable to a pickup in the rate of capital deepening. That is because there clearly have been improvements in the quality of labor, and because the residual, which we call total factor productivity, has gone up as well. While we are getting very significant advances in capital spending and total factor productivity that suggest an increase in real rates of return, what we are trying to explain is why labor productivity is rising. Labor productivity very clearly has accelerated, and it has done so because of its interaction with the sharp rise in capital investment that has occurred. So, it strikes me that that set of data is internally consistent with the presumption that we have had a marked and discontinuous pickup in productivity growth that started in 1995.

There is another set of observations that also was quite important in our around-the-table discussion of the economic outlook. Bill Poole referred to the issue that a number of you have raised in the past with regard to the very striking statements that businessmen are making.

When asked why the big increases in their wages or other costs have not been reflected in their profits, they respond that they offset those increases by raising productivity. That implies that productivity is a free good in the sense that if a business needs a bit more of it, it sprinkles a little on its income statement and it can do so at will. This makes no sense because it is not conceivable that productivity is available at will unless there is some significant increase in the backlog of unexploited productivity-related capital investments. If that situation exists, then when a business says that it will work to get costs down, there would be available on-the-shelf types of equipment, research, managerial alterations, and the like that could significantly increase productivity or offset costs. It is the cost offset that most businesses look at. But on a consolidated basis, two-thirds of their costs are labor and the latter therefore have an important effect on the productivity data. I don't think we know for sure at this point how long this process will persist.

We do know and can readily observe that there has been a very dramatic increase in underlying demand in the economy. What is also fascinating is how easy it is to bring on new supply. The reason for that is obviously in part the fact that the lead times for deliveries of equipment have fallen so materially that when demand picks up, it is readily met by increases in production. We are looking at a huge increase in demand in the manufacturing sector, but one that has readily been met by increases in supply with no evident shortages and no slowing in lead times on deliveries. All of this is consistent with what a number of you have called the supply side elements in the economy. I have no doubt that we have very strong demand underlying this expansion. I think the Greenbook is probably right in its forecast that this demand will decelerate, but I also share the concerns that a number of you have raised that it may be sustained for an extended period because it is very hard to detect any slowing at this point.

Labor markets are tightening, as many of you have argued. I thought that the comment about not being able to find recruiters was especially significant. [Laughter] We are running out of new workers. Part of that problem is being resolved by substituting capital for people, but that obviously cannot go on indefinitely. At some point there will be a reversal of the very sluggish pattern of wages, which I have attributed to a possible desire for increased job security stemming from the fear of job skill obsolescence associated with the introduction of technology. That appears to have caused a shift in emphasis from wage increases to job security as evidenced in union contracts. But union contracts are becoming a smaller and smaller part of the market. As a consequence, I don't think we can know for certain whether, and how much, job security concerns are still damping wage increases.

If we were dealing with an economy in which the productivity data were not showing significant signs of acceleration or if we knew with some degree of conviction that the productivity gains were temporary, that the international financial system was not in as fragile a state as it is, including the Asian problem and its effects on Russia, Brazil, Mexico, and similar countries, then I think we probably would have moved the funds rate higher a meeting or two ago. In any event, it is very difficult to get around the notion that what is going on strictly in the domestic economy is something that could very readily run off the rails as various developments that have contributed to the virtuous cycle that the economy clearly is experiencing start to unwind. I personally have been somewhat reluctant to support tightening because I think that the cost structure, even with the acceleration in wages, is still moving up in the nonfinancial corporate sector at less than a 1 percent annual rate. That rise essentially picks up increases in unit labor costs of a little over 1 percent, unit nonlabor costs that are declining markedly, and a modest decline in profit. We can describe the

underlying cost structure as still quite benign. I do think, however, that it has been showing some slight uptilt in the last couple of quarters though the uptilt really is quite minor.

There is a question of the cost of waiting to see how all of this will turn out. Obviously, if the international system stabilizes, or in fact gets worse, that factor is going to be removed from our calculations one way or the other. I don't know what is going to happen to the stock market. I must say that I would not be surprised to see it weaken significantly, but I would not want to bet the ranch on that at this stage. I do think that the crucial decision we have to make and have been making for a while is the recognition that the longer we wait, if our analysis of this process is wrong, the more we will have to do to stabilize the economic system. I believe that is a given. The issue is whether the cost is so large as to induce us to act very soon. Jerry Jordan thinks that a substantial adjustment will be needed if we do not act promptly. I cannot say that I know he is wrong. I suspect that, in line with what Don Kohn was saying, the currently low level of inflation probably gives us a little more of an opportunity to wait--I say "probably" without a high degree of certainty. In other words, taking the most striking statistic, a GDP deflator of under 1 percent at an annual rate for the first quarter gives us a little leeway on the upside. We can afford to be wrong; we can afford to wait; and we can afford to pay a modest price to avoid taking the risk of acting prematurely, which I think is what would be involved if we took action today and maybe even at the next meeting. I am fairly certain that if we were to move in the near term, certainly today, the impact on Asia and the international financial structure would be surprisingly large. I am not sure that would be true at the next meeting, but it might. However, if this expansion does not moderate, I don't think we can wait indefinitely. At some point we will have to say there is a danger. It is conceivable a move could create significant international financial turmoil, which

would redound onto the U.S. economy as well, but the alternative could very readily be perceived as worse.

After that rather long discourse, I conclude that I would like to stay where we are at this stage. I think that not moving today is quite important especially because of Asia, but I believe that maintaining asymmetry toward tightening is essential as well because I think the evidence points in that direction. Vice Chair.

VICE CHAIRMAN MCDONOUGH. Thank you, Mr. Chairman. I agree completely with both the recommendation that you have made and the arguments that you have advanced in favor of it.

CHAIRMAN GREENSPAN. President Poole.

MR. POOLE. I want to start with the puzzle that I talked about at the last meeting. The markets and business forecasters are all looking at the same data that we look at. Yet, they seem to be assigning essentially zero probability to the possibility of a Fed tightening. That concerns me because I think markets are not paying enough attention to what the Fed may have to do to sustain the excellent record on low inflation, which has to be our primary goal. I believe it is important that we talk about our outlook for aggregate demand rather than output per se. In my view, output growth may well slow because of resource constraints. If it does slow, that will not necessarily be a sign that we are out of the woods. We need to be looking at aggregate demand growth. As I see it, we have somewhat of a classic case in which money growth and associated measures may be giving a different signal than some of the other developments in the economy. We are going to have to make some choices about that.

I do not have a conviction that however I vote my decision will turn out to be right after the fact. I have been trying to think through the various risks and the tradeoffs. One approach

is to look at the situation at the end of the year and in retrospect at the decision that we reach today and my own position. There are two risks to weigh one against the other. If we do not act today when in retrospect we should have taken action, what are the costs that we will have set in train? The other way, if we act today when in retrospect we should not have, what are the costs? It seems to me we have to weigh those two in trying to decide how to come out on this.

I think that the difficulties in countries around the world, including of course Asia most immediately, should not be a major influence on our decision. That's because it seems to me that if the U.S. economy starts to go off track, we are going to create problems for the international economy as a consequence. I also am concerned that although Indonesia is the problem in front of us today, at our next meeting it might be another country, and at the meeting after that still another. I am worried that by looking at the problems abroad we can be diverted from our major responsibility for price stability in the United States.

As I weigh the case I and the case II risks, it seems to me that if we raise rates today and in retrospect it turns out that the increase was not necessary, we can reduce rates in the future while creating very minimal problems in the meantime from that action. On the other hand, if we do not act today when looking back we find we should have, it seems to me that we will be getting ourselves further behind and digging ourselves into a deeper problem that would be considerably more costly to straighten out than if we had started earlier. So, that is my calculus along those lines. I do not have, as I emphasized, a conviction that whatever we do, it will turn out in retrospect to be the right thing to do. I think we have to weigh the costs of the different kinds of mistakes that we may make.

CHAIRMAN GREENSPAN. President Minehan.

MS. MINEHAN. Mr. Chairman, at our last meeting I expressed concern that, even in the absence of clear indications that inflation was rising, both the strength of the domestic economy and the frothiness in financial markets required some policy tightening to reduce the risk that even more tightening might be needed later. Nothing has happened since the last meeting to change my perception of that need. If anything, the domestic economy has gotten stronger as have financial markets. Price pressures remain low to be sure, but I continue to believe that this is more the result of temporary rather than permanent factors. It may be that the trend rate of productivity has risen, and certainly your arguments are very persuasive on that, but I wonder whether productivity will continue to grow at a rate that will offset inflationary pressures stemming from labor and other resource constraints.

In my view monetary policy is accommodative right now. I do not think that so much because of the level of the stock market, and I totally agree with you, Mr. Chairman, that we cannot really target a particular level of the stock market, and we should not attempt to do so. My concern about an accommodative monetary policy is along the lines of what President Poole just referred to as the costs of being wrong. I think the costs of continuing with an accommodative policy are fairly large. As asset prices escalate, not just in the stock market but elsewhere, their impact on resource allocation can be negative. And the escalation of asset prices can be negative in terms of its impact on credit quality, on the financial sector more generally, and ultimately on the rest of the real economy. So, with a continuing accommodative monetary policy that we are seeing anecdotally, even if we don't see it in more traditional measures such as the level of the real interest rate, I think we run the risk of building problems in the financial sector and in the real economy that will come back to haunt us.

I know that conditions internationally are very tenuous. I do not know, however, to what extent increases in our interest rates at this time would affect events in Indonesia or India or Pakistan, although I do agree they would have an immediate impact on the dollar/yen rate. I don't know how big it would be, but it might be troublesome. It may be, and I will defer to your judgment, Mr. Chairman, that now is not the time to move for various reasons, particularly on the international side. But again, I am really worried about the costs of being wrong. If I look back, I wonder how much difference tighter monetary policy would have made over the last couple of years. In fact, looking at the Asian situation as it has unfolded, how much would tighter conditions here in the United States have impeded the flow of hot money to Asia that turned out, at least in part, to be the source of some of the problems in that part of the world?

I truly believe that a conservative, well balanced U.S. economy with solid growth, low inflation, and low risks is the best prescription for the entire world. I hope we are not sacrificing that by waiting. I will agree with your recommendation. As I said, I hope we're not sacrificing something.

CHAIRMAN GREENSPAN. President Broaddus.

MR. BROADDUS. Mr. Chairman, if it were my choice, I would still prefer to make a small move today for many of the reasons that Cathy Minehan and Bill Poole have adduced here. To go beyond what they said, there are a lot of folks in this room and outside of the System who are making the point that we have time to wait before we move. I am a little suspicious of that judgment. As Bill Poole said earlier in the meeting, expectations and psychology can change very, very rapidly. As has occurred at times in the past, we can get behind the curve very quickly. When we do, there is usually a big price to pay. So, to paraphrase Governor Kelley, I would say that if we sit still, I hope we will at least sit uptight. [Laughter]

CHAIRMAN GREENSPAN. President Boehne.

MR. BOEHNE. I think this is one of those decisions where we have come to the end of the line as far as whether hard analysis will give us the answer; it will not. This is a period where we must use our judgment. Our judgment over the past year or more has been to be patient. It is tempting to overdo something that has worked in the past, but my judgment is that we ought to keep things where they are for now. In the spirit of humility that has been expressed, I'm not sure I am right, and I don't think anybody else can be that sure either. But my judgment coincides with your judgment, Mr. Chairman, to stay where we are.

CHAIRMAN GREENSPAN. Governor Rivlin.

MS. RIVLIN. Mr. Chairman, I concur with both parts of your recommendation. I do not think we ought to move today. My reasons relate to Asia, but not in terms of the impact of our move on Asia. Rather, it is because I expect the deteriorating situation in Asia to have more of an impact on our economy than we seem to be anticipating and possibly to make a move unnecessary. Nevertheless, I agree that the risks are on the upside. Even so, I do not share the view of Presidents Poole and Minehan that there is much of a risk of waiting too long. It is not my perception that the U.S. economy is some tight spring ready to pop. The economy has a lot of inertia, as we have seen for quite a long time. I don't think the cost of waiting is likely to be that high.

CHAIRMAN GREENSPAN. Governor Kelley.

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

CHAIRMAN GREENSPAN. President Stern.

MR. STERN. I come out much where you did, Mr. Chairman. I talked earlier about what might be called the tension between the strength in aggregate demand and accommodative financial conditions and what clearly has been rapid growth in aggregate supply. The latter is

premised, I think, on favorable productivity conditions, and the question is whether that will or will not continue. If it does, of course, we could get a favorable resolution of all this. Another possible resolution is that productivity will fall short but businesses, because of competitive market conditions, will not be able to pass along their cost increases and profit margins will get squeezed. That would lead to the long anticipated correction in equity values that would cool demand over time. So, that is another potential resolution. I do not have a conviction as to how all this ultimately is going to play out. I think this is a case where there is, at least in my mind, so much uncertainty that I conclude we should not do very much. In that environment, I am comfortable with your recommendation.

CHAIRMAN GREENSPAN. Governor Gramlich.

MR. GRAMLICH. Mr. Chairman, I support both parts of your recommendation for the reasons that you and others have given. Let me make two points on the other side. One is, as I mentioned last time, that in focusing on a funds rate target we may make the funds rate too rigid, and we should be mindful of that. The second can be summarized in a comment that Yogi Berra made in a year when the New York Yankees were falling far behind the leading team early in the season. He said it was getting late early that year. [Laughter] I think we should recognize that this is a political year, and it might get harder to make changes later in the year. We should be mindful of that and perhaps think hard about it at our next meeting. Having said all that, I would still support your recommendation.

CHAIRMAN GREENSPAN. President Parry.

MR. PARRY. Mr. Chairman, I think there are good reasons that one could cite to justify raising rates today. However, for goods prices at least, a number of factors are offsetting labor market pressures. In addition, I think the recent declines that we have seen in inflation

expectations have raised the real funds rate to what appears to be a moderately high level. In light of that, it may make sense to wait a while longer before deciding to raise the funds rate. I assume that a "no change" decision would include an asymmetric directive. Thank you.

CHAIRMAN GREENSPAN. President Hoenig.

MR. HOENIG. Mr. Chairman, I concur with your recommendation and would like to make a couple of comments. I am very mindful of the Asian situation, though I would not use international considerations as a primary motivation for not changing our policy. I think the stability of the U.S. economy needs to be our foremost consideration. I come out this way because, as I look at the U.S. economy, I see a variety of factors influencing the outlook that do not paint a clear picture. They do not provide an easily defined rationale for moving now. Moreover, I don't find the argument that we should tighten policy at this stage for insurance or preemptive reasons a very acceptable rationale either. We need some hard data to justify a policy move. In particular, I think we need to watch the productivity numbers. If those point to a clear policy course, we should act. On that basis I would be willing to wait and see.

CHAIRMAN GREENSPAN. President Guynn.

MR. GUYNN. Mr. Chairman, my view is that the sky probably is not falling yet. Certainly, there is some probability that we can slip by without a tightening of policy, but the odds appear to be growing on the other side. With all the comments I heard in the first go-around, I think I identify most vividly with Bill Poole's assertion that inflation expectations, while subdued, are fragile and that people really are counting on us to do the right thing, even if they squeal and holler at the time we do it. Although I feel that we should tighten today based on domestic considerations, I certainly defer to you and others who can better judge how much weight to give the fragile international situation. Having said that, I come back to your reminder that that means

we may well have to do more later. I presume it is our judgment that the international situation is likely to be more settled and less fragile at the time of the next meeting or perhaps two or three meetings down the road and that it will then be able to cope with a more aggressive U.S. monetary policy move if that becomes desirable at that time. I support your recommendation and the asymmetrical directive.

CHAIRMAN GREENSPAN. Governor Meyer.

MR. MEYER. Thank you, Mr. Chairman. Labor markets are very tight, and a significant part of the recent inflation performance owes to the temporary effects of favorable supply shocks. Inflation will almost certainly be on a rising trend going forward, but the published rise will be partially offset by the effect of technical revisions. Let me say a few words about the stock market and then Asia and how they fit into the monetary policy calculus.

For the stock market, I suggest two rules. Rule number one is that, in general, monetary policy should focus on our broad macro policy objectives, namely price stability and full employment. The stock market in this case has only an indirect influence on monetary policy through its effect on aggregate demand, with no more influence than a host of other factors. If the FOMC is disciplined about its monetary policy and thereby contributes effectively toward its broad macro objectives, the stock market in my view is likely to converge back to fundamental values and to do so in a reasonably graceful and not very disruptive way should it drift away for awhile.

Rule number two addresses the case when there is evidence of a bubble economy in which asset values are more seriously stretched in both financial and real asset markets, as was apparently the case in Japan in the late 1980s. Failure to control such widespread over-valuations can risk serious disruptions to the real economy down the road. Rule number two suggests the use of monetary policy to resist such wider and more dramatic asset market overvaluations. The art of

good policy is knowing when to switch from rule one to rule two. [Laughter] I do not think that time has come yet. Nevertheless, when there is an increased risk that equities are significantly overvalued, it would be prudent for monetary policymakers to reassess how disciplined their policy really is and perhaps to err on the side of restraint when there is a close call.

What about Asia? Specifically, should the FOMC weigh the global effects of U.S. monetary policy? Applying my belief in rule number one for stocks, a globally friendly U.S. monetary policy is one that insures the United States is an anchor for strong global performance. This is generally achieved by promoting price stability and maximum sustainable growth and full employment at home. Like rule number two, there may be exceptions and the acute stage of the Asian crisis toward the end of last year might have been one. The recent sense of increased fragility in the region and perhaps a greater sense of vulnerability of the Japanese economy at least raises some question about whether today we are still or again in such a situation. Another close call.

The bottom line is that this is a close call for policy. I believe that monetary policy needs to edge toward a tighter stance and soon unless either inflation moves still lower or growth slows to below trend. The staff forecast suggests that growth may slow to trend this quarter and to below trend in the second half. That would reduce the risk of rising inflation going forward. But such a slowdown is far from assured, and even in the staff forecast, inflation drifts upward. Asia encourages some patience.

On balance I think I would support a tightening today if the consensus were there. I will use my energy today and in the days to come to try to move the consensus in this direction unless, of course, the data going forward or further analysis of the data change my view of the appropriate policy. But today I will accept your recommendation, Mr. Chairman.

CHAIRMAN GREENSPAN. President Moskow.

MR. MOSKOW. Mr. Chairman, I support your recommendation, but I do think it is only a matter of time before we will have to tighten policy. We all talked about the strength in the economy and the fact that inflation pressures have been muted. I hope you are right about productivity growth being larger than that reported. Perhaps the Greenbook is right that trend economic growth is in the neighborhood of 2-3/4 percent. If all this is true, then obviously inflationary pressures will remain contained. Our best estimate is that the Greenbook inflation forecast is too optimistic. Even if we accept the forecast in the Greenbook, core CPI inflation in 1999 is nearly 3 percent on a consistently measured basis. That is a clear and troubling acceleration. I believe we have to be humble about our ability to forecast inflation, given our track record going back over the last few years. Nevertheless, I think the balance of risks strongly suggest that we will have to tighten policy this year, maybe not today but relatively soon.

CHAIRMAN GREENSPAN. President McTeer.

MR. MCTEER. I support your recommendation, Mr. Chairman. We have unexpectedly low inflation in large part because a strong supply side has accommodated unexpectedly rapid real growth. I'm not sure that locking in the low inflation now requires weakening the economy to slow down real growth. It may or it may not. I guess this uncertainty is an argument, as Don Kohn put it "on the one hand" in his statement, for being less preemptive and relying more on actual experience and less on forecasts.

CHAIRMAN GREENSPAN. Governor Phillips.

MS. PHILLIPS. Thank you. I think this is as close a call as I have had to make since coming to the Fed.

MS. RIVLIN. Maybe you should not leave!

MS. PHILLIPS. Yes, maybe that's right! I am going to end up concurring on "B" asymmetric. The reason is mostly because inflation appears to be quite well contained. Growth is extraordinarily strong, but in view of the inflation situation, I think there is time to see how Asia plays out. That will take time, so I will be watching you guys! [Laughter]

CHAIRMAN GREENSPAN. President Jordan.

MR. JORDAN. Thank you. I agree that asset markets like the stock market should not be an objective of policy, but I also do not think they should be a constraint on doing what we otherwise think is the right thing. I never saw the need for signaling or the desirability of trying to condition the markets to anything we do.

As far as Asia goes, I don't think the Japan problem is going to go away any time soon. I believe they are in far worse condition than is generally understood, and six months from now or maybe even a year from now we will see that Japan is an even more severe problem. So, if we are going to have that as a constraint, it is going to be around for awhile.

Demand is extremely strong and we are meeting a lot of that demand by increasing our imports. Even if the Greenbook is right, two years from now we will have a trade deficit of over $300 billion, over 3 percent of GDP, and in the wrong hands that is a dangerous statistic. I think that playing locomotive to the rest of the world is the wrong way to conduct monetary policy. So, I believe we need to do something now or we will find that the toothpaste is already out of the tube and it is going to be costly to try and squeeze it back in again.

CHAIRMAN GREENSPAN. Governor Ferguson.

MR. FERGUSON. Mr. Chairman, I concur with your recommendation. I agree with others around the table who have said that our obligation is primarily to our own citizens. However, I also recognize that there will be spillover effects if conditions continue to get worse in

Asia, and I am concerned about that. In my view, the monetary and credit aggregates are quite accommodative and that is troubling at this point. But I also am comforted by the fact that we seem to have relatively low inflation expectations, and as Governor Phillips has said, we are starting from a relatively low level of inflation. I have three or four questions. One is, can we wait? I think the answer to that is yes, we certainly can wait. Inflation is not out of control, and we retain some well-won gains. Should we wait? I believe the answer is yes; obviously at this meeting we should wait. Should we then be prepared to move quickly? I think the answer to that is obviously yes. I believe it probably will be appropriate to move before the summer is out, but that does not mean that we have to move today.

CHAIRMAN GREENSPAN. The preponderance is for "B" asymmetric.

Could you read the operational paragraph?

MR. GILLUM. Yes, Mr. Chairman. I will be reading from page 14 of the Bluebook where the operational paragraph is shown: "In the implementation of policy for the immediate future, the Committee seeks conditions in reserve markets consistent with maintaining the federal funds rate at an average of around 5-1/2 percent. In the context of the Committee's long-run objectives for price stability and sustainable economic growth, and giving careful consideration to economic, financial, and monetary developments, a somewhat higher federal funds rate would or a slightly lower federal funds rate might be acceptable in the intermeeting period. The contemplated reserve conditions are expected to be consistent with considerable moderation in the growth in M2 and M3 over coming months."

CHAIRMAN GREENSPAN. Call the roll on that recommendation.

MR. GILLUM. Yes sir.

Chairman Greenspan	Yes
Vice Chairman McDonough	Yes

Governor Ferguson	Yes
Governor Gramlich	Yes
President Hoenig	Yes
President Jordan	No
Governor Kelley	Yes
Governor Meyer	Yes
President Minehan	Yes
Governor Phillips	Yes
President Poole	No
Governor Rivlin	Yes

That is a 10 to 2 vote.

CHAIRMAN GREENSPAN. Our next meeting is on June 30-July 1.

END OF MEETING

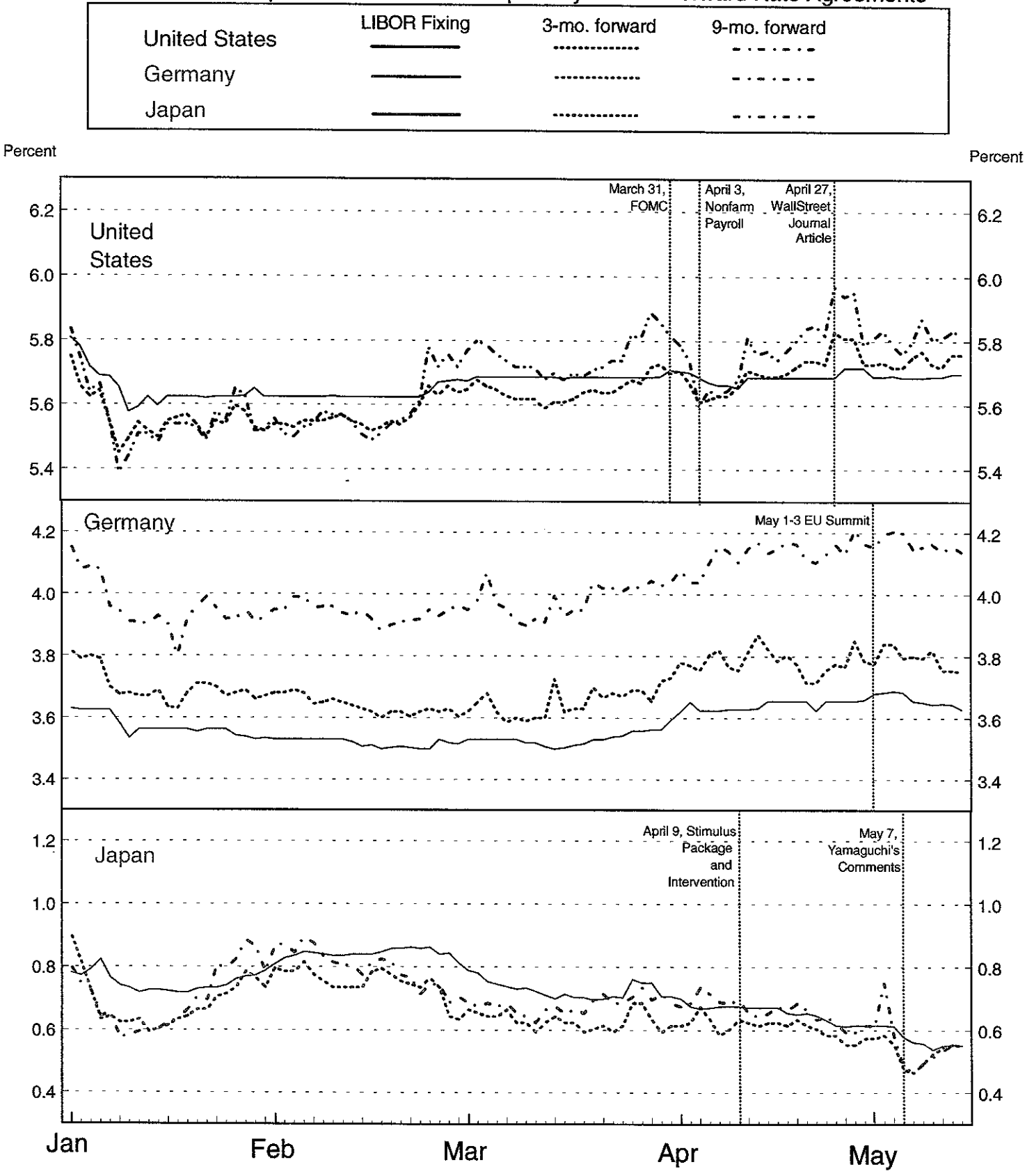
APPENDIX 1

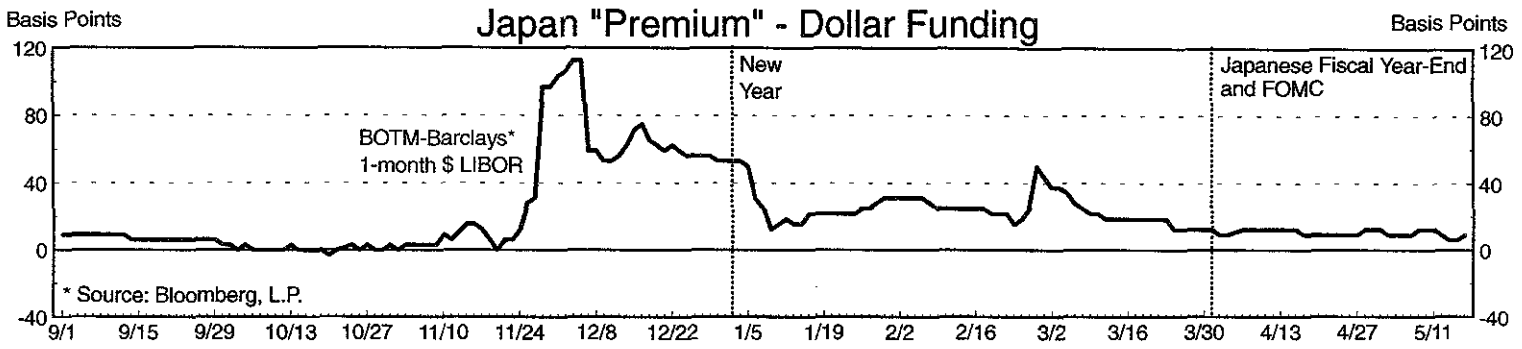
Charts used by Mr. Fisher in his presentation

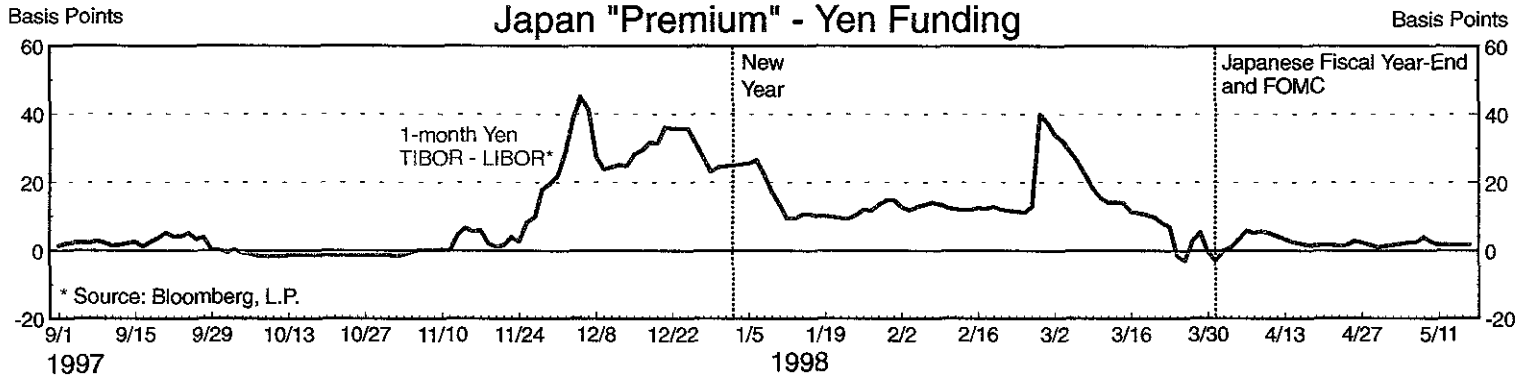
3-Month Deposit Rates

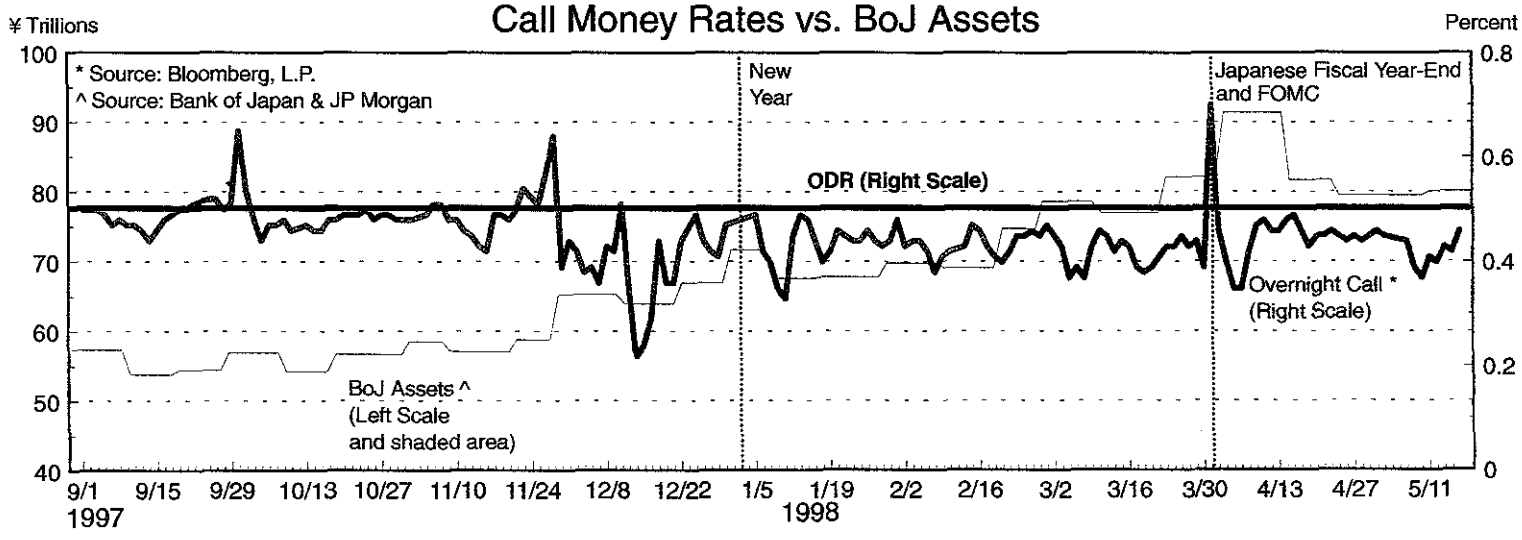
January 1, 1998 - May 18, 1998

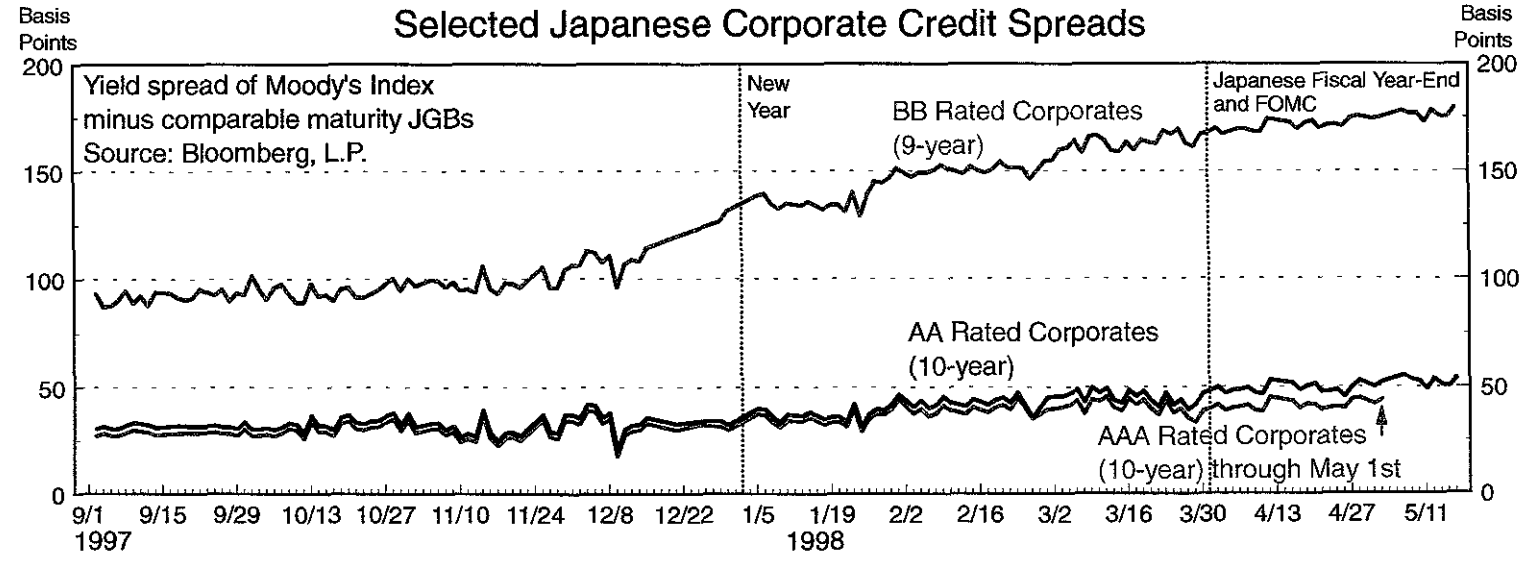
Current Euro-deposit Rate and Rates Implied by Traded Forward Rate Agreements

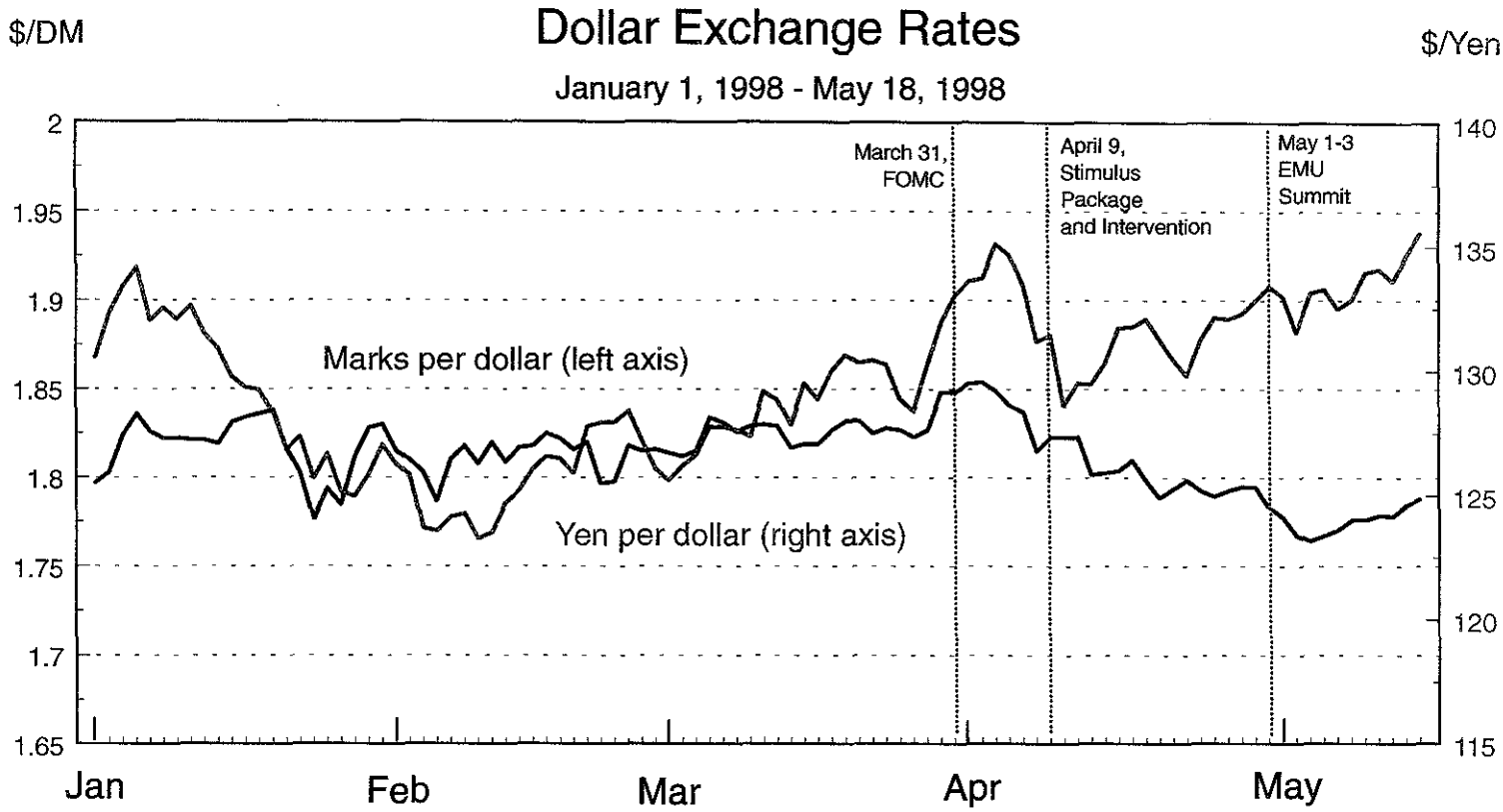


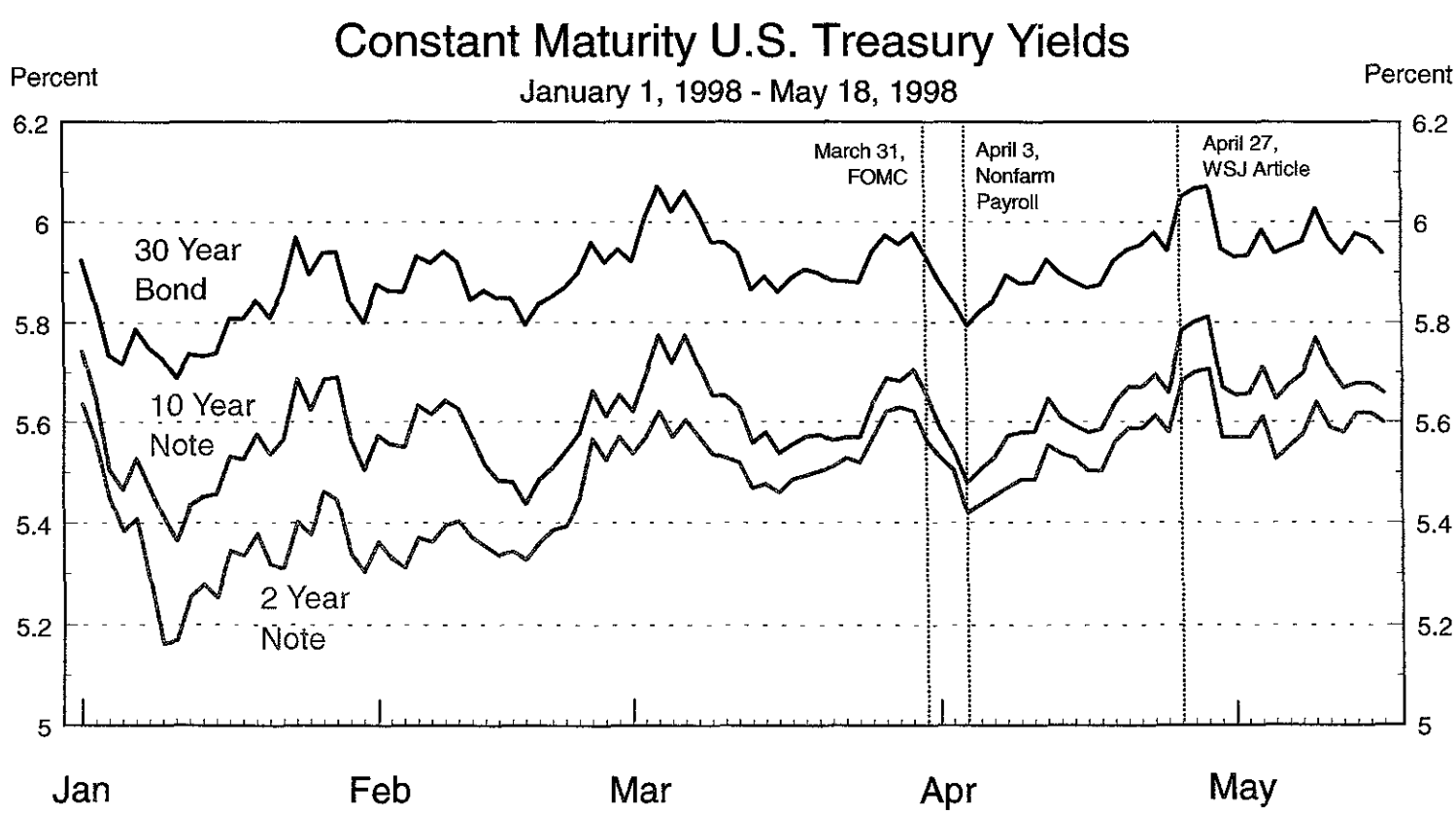

Japan "Premium" - Dollar Funding
Basis Points
Basis Points
120
80
40
0
-40
New Year
Japanese Fiscal Year-End and FOMC
BOTM-Barclays* 1-month $ LIBOR
* Source: Bloomberg, L.P.
9/1 9/15 9/29 10/13 10/27 11/10 11/24 12/8 12/22 1/5 1/19 2/2 2/16 3/2 3/16 3/30 4/13 4/27 5/11


Japan "Premium" - Yen Funding
Basis Points
Basis Points
60
40
20
0
-20
New Year
Japanese Fiscal Year-End and FOMC
1-month Yen TIBOR - LIBOR*
* Source: Bloomberg, L.P.
9/1 9/15 9/29 10/13 10/27 11/10 11/24 12/8 12/22 1/5 1/19 2/2 2/16 3/2 3/16 3/30 4/13 4/27 5/11
1997
1998


Call Money Rates vs. BoJ Assets
¥ Trillions
Percent
100
90
80
70
60
50
40
0.8
0.6
0.4
0.2
0
* Source: Bloomberg, L.P.
^ Source: Bank of Japan & JP Morgan
New Year
Japanese Fiscal Year-End and FOMC
ODR (Right Scale)
Overnight Call * (Right Scale)
BoJ Assets ^ (Left Scale and shaded area)
9/1 9/15 9/29 10/13 10/27 11/10 11/24 12/8 12/22 1/5 1/19 2/2 2/16 3/2 3/16 3/30 4/13 4/27 5/11
1997
1998


Selected Japanese Corporate Credit Spreads
Basis Points
Basis Points
200
150
100
50
0
Yield spread of Moody's Index minus comparable maturity JGBs
Source: Bloomberg, L.P.
New Year
Japanese Fiscal Year-End and FOMC
BB Rated Corporates (9-year)
AA Rated Corporates (10-year)
AAA Rated Corporates (10-year) through May 1st
9/1 9/15 9/29 10/13 10/27 11/10 11/24 12/8 12/22 1/5 1/19 2/2 2/16 3/2 3/16 3/30 4/13 4/27 5/11
1997
1998


Dollar Exchange Rates
January 1, 1998 - May 18, 1998
$/DM
$/Yen
2
1.95
1.9
1.85
1.8
1.75
1.7
1.65
140
135
130
125
120
115
March 31, FOMC
April 9, Stimulus Package and Intervention
May 1-3 EMU Summit
Marks per dollar (left axis)
Yen per dollar (right axis)
Jan
Feb
Mar
Apr
May


Constant Maturity U.S. Treasury Yields
January 1, 1998 - May 18, 1998
Percent
Percent
6.2
6
5.8
5.6
5.4
5.2
5
March 31, FOMC
April 3, Nonfarm Payroll
April 27, WSJ Article
30 Year Bond
10 Year Note
2 Year Note
Jan
Feb
Mar
Apr
May

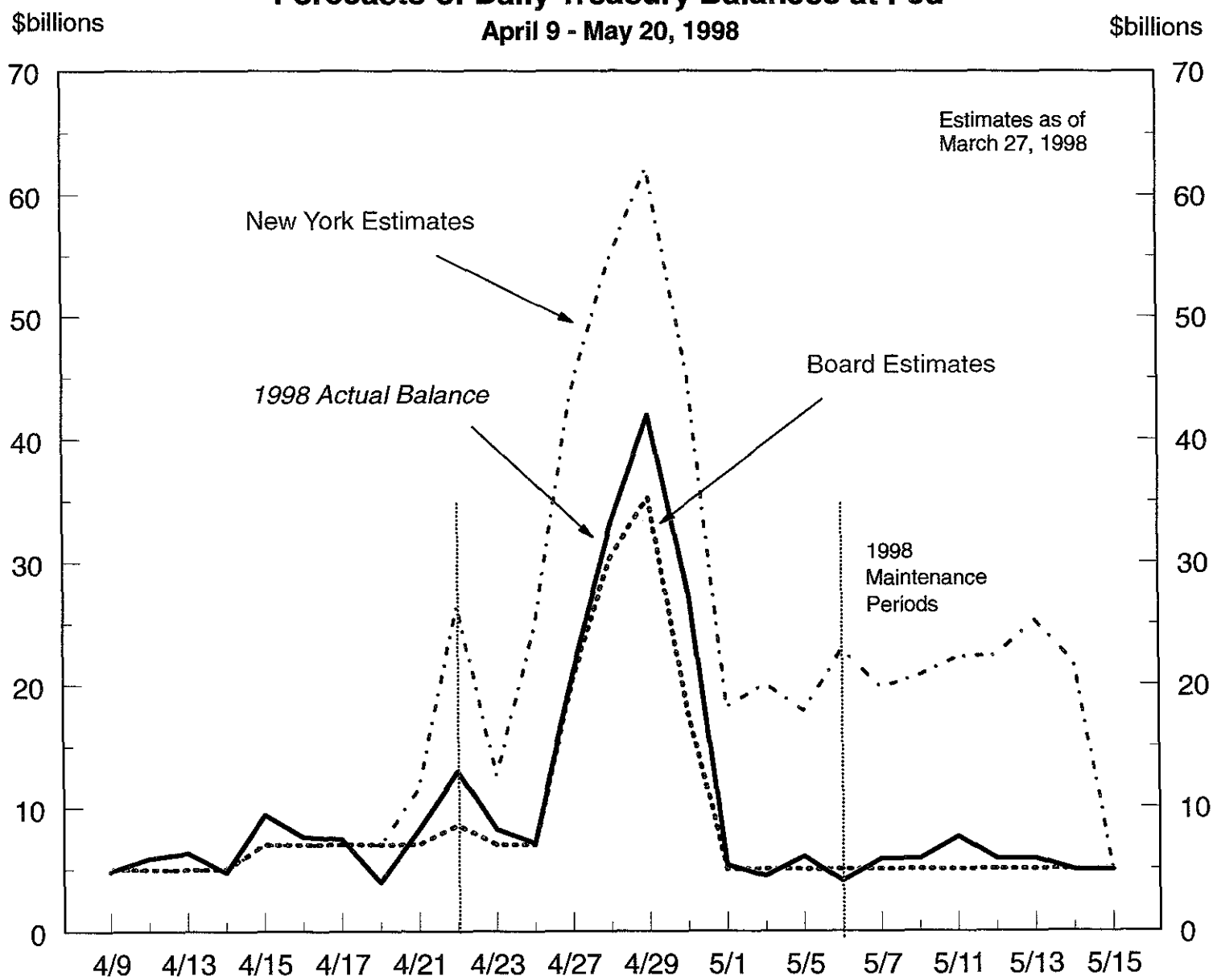
Federal Budget Receipts

April - June 1998
($Billions)

	Forecast as of March FOMC	Current Forecast
Board	516	542
FRBNY	548	543

Forecasts of Daily Treasury Balances at Fed

April 9 - May 20, 1998

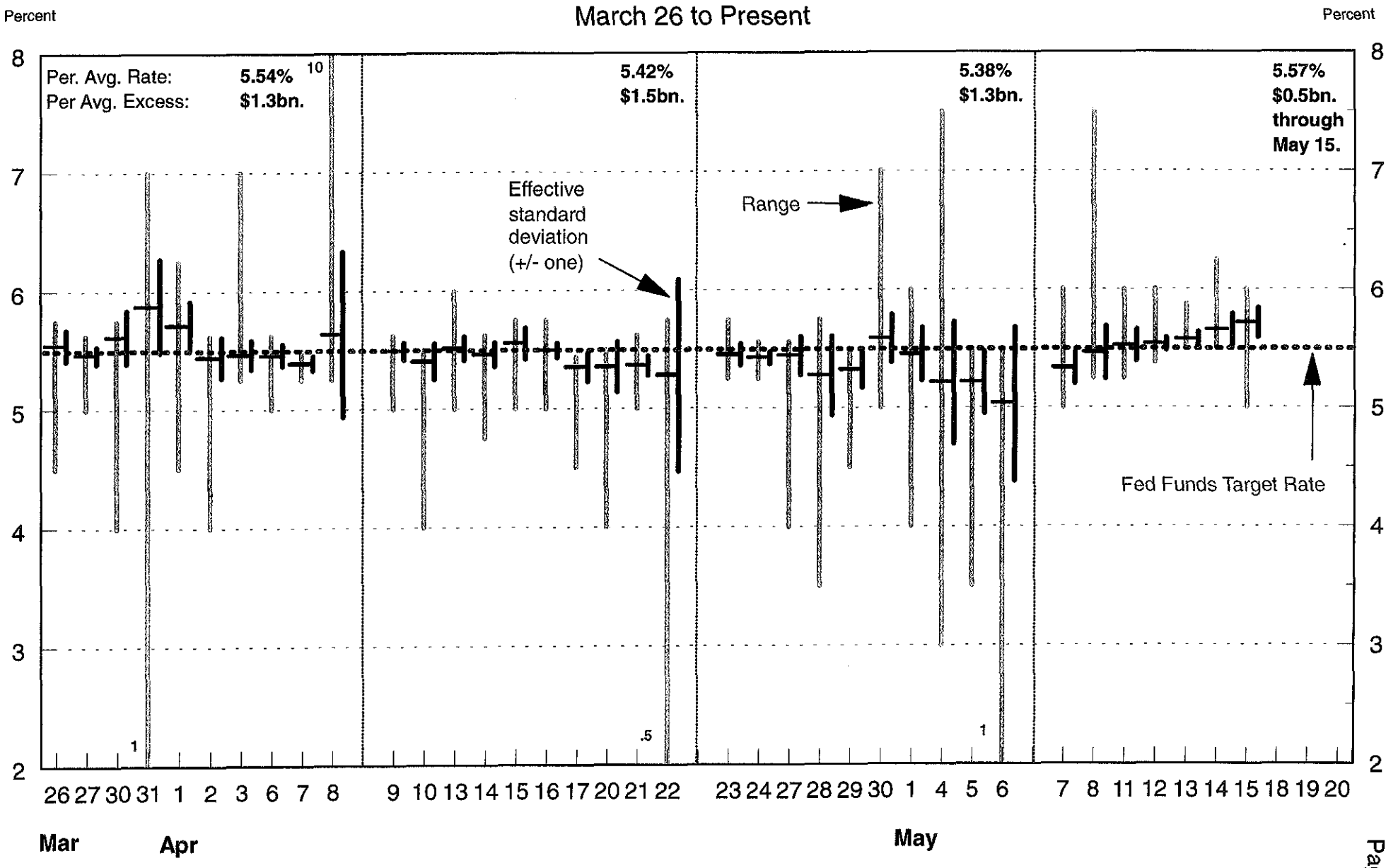


Total Treasury Balance																							
Actual - 3/31 NY forecast	3	5	-1	-6	-8	-10	-14	-15	-14	-11	-9	-5	-6	-6	-8	-15	-8	-8	-6	-8	-9	-7	
TT&L Deposits																							
Actual - 3/31 NY forecast	1	4	-1	-3	-5	4	-9	3	9	11	12	13	7	9	4	4	6	7	8	9	11	8	

DAILY FEDERAL FUNDS

TRADING RANGE, EFFECTIVE AVERAGE & ONE STANDARD DEVIATION

March 26 to Present



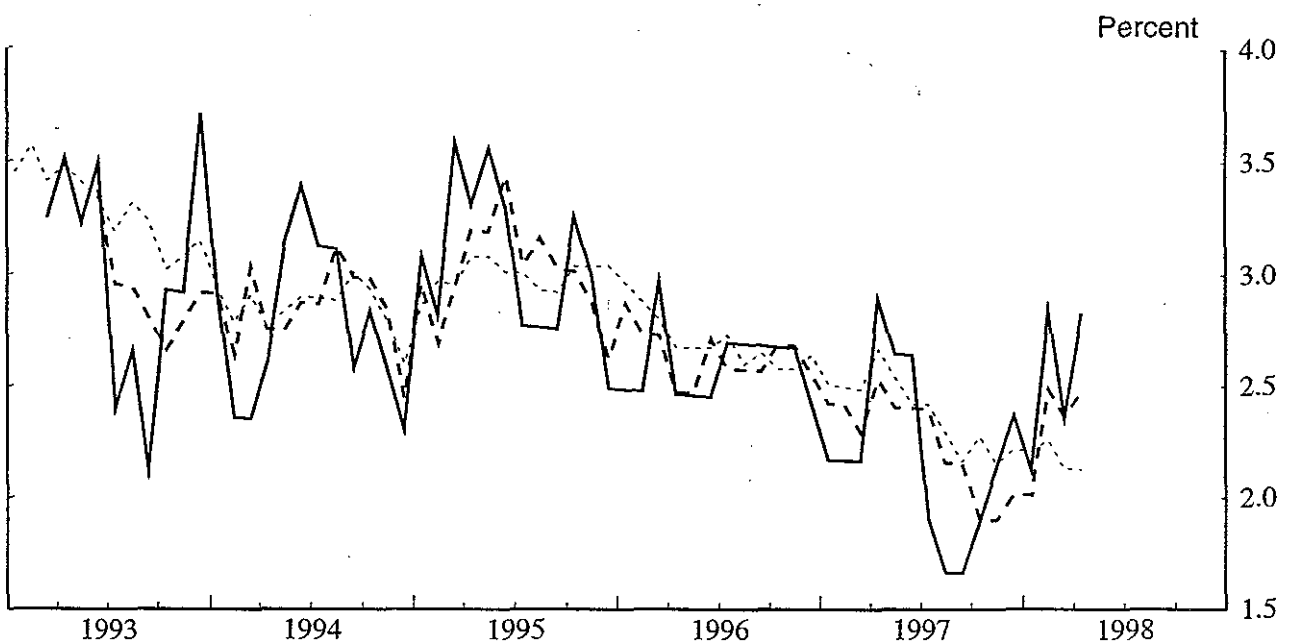
APPENDIX 2

Charts used by Governor Meyer

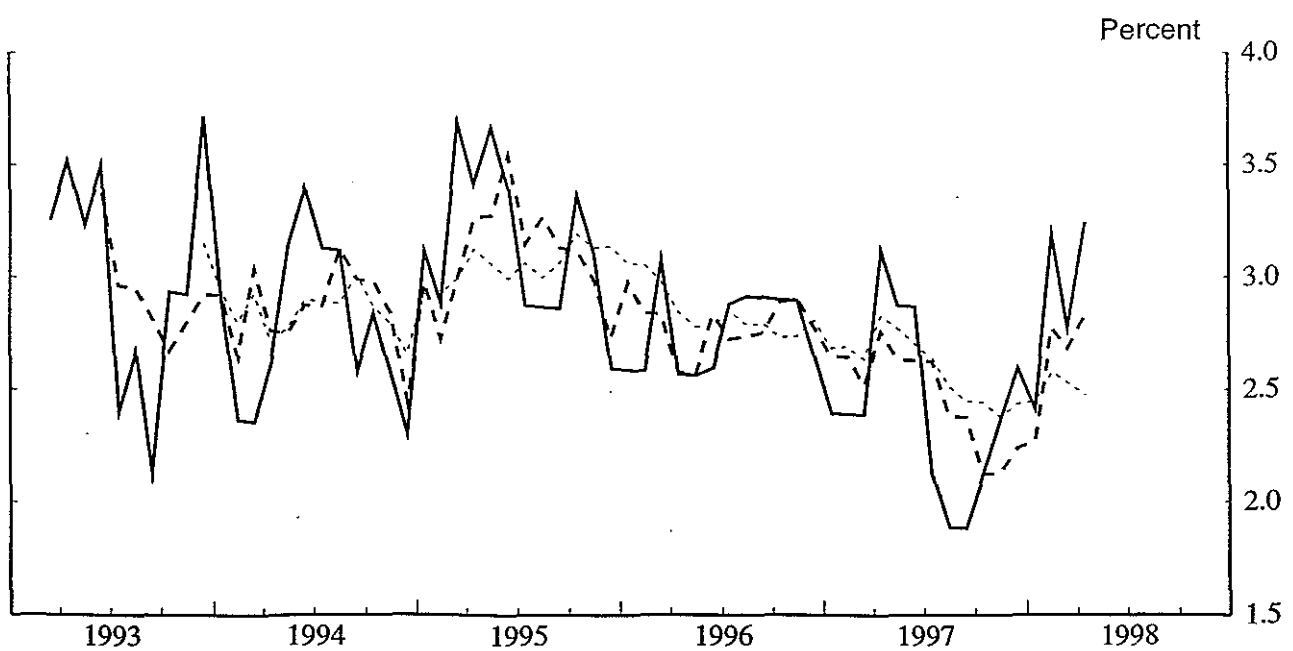
Core CPI Inflation

(Annual rate)

Published



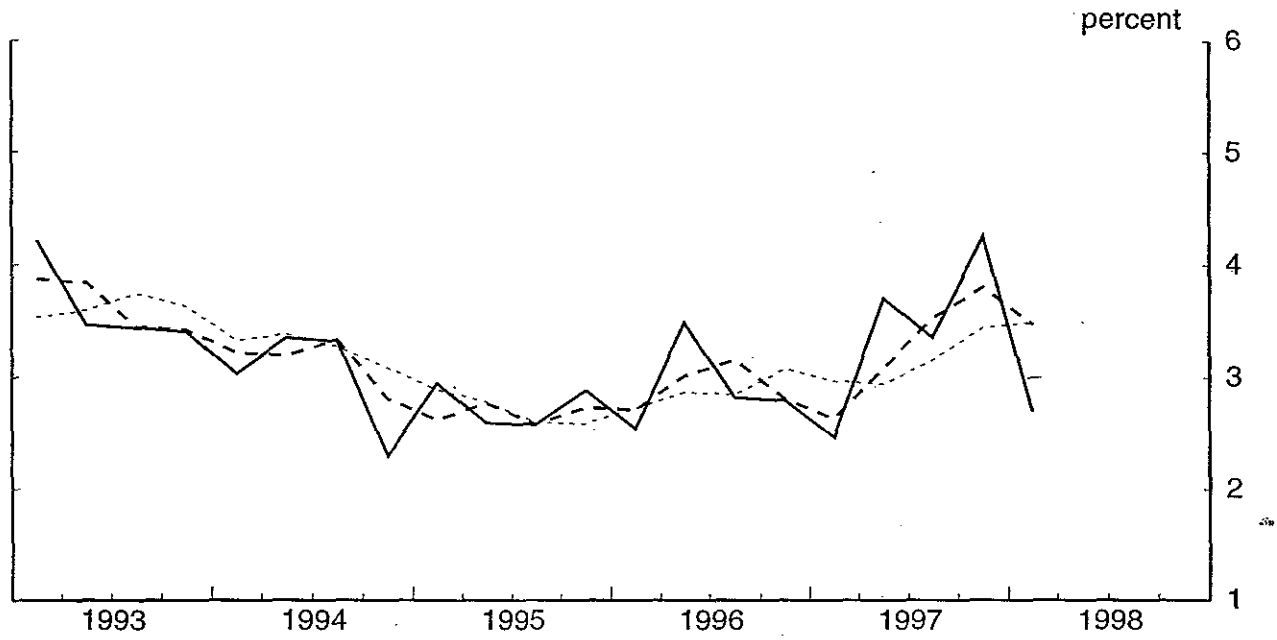
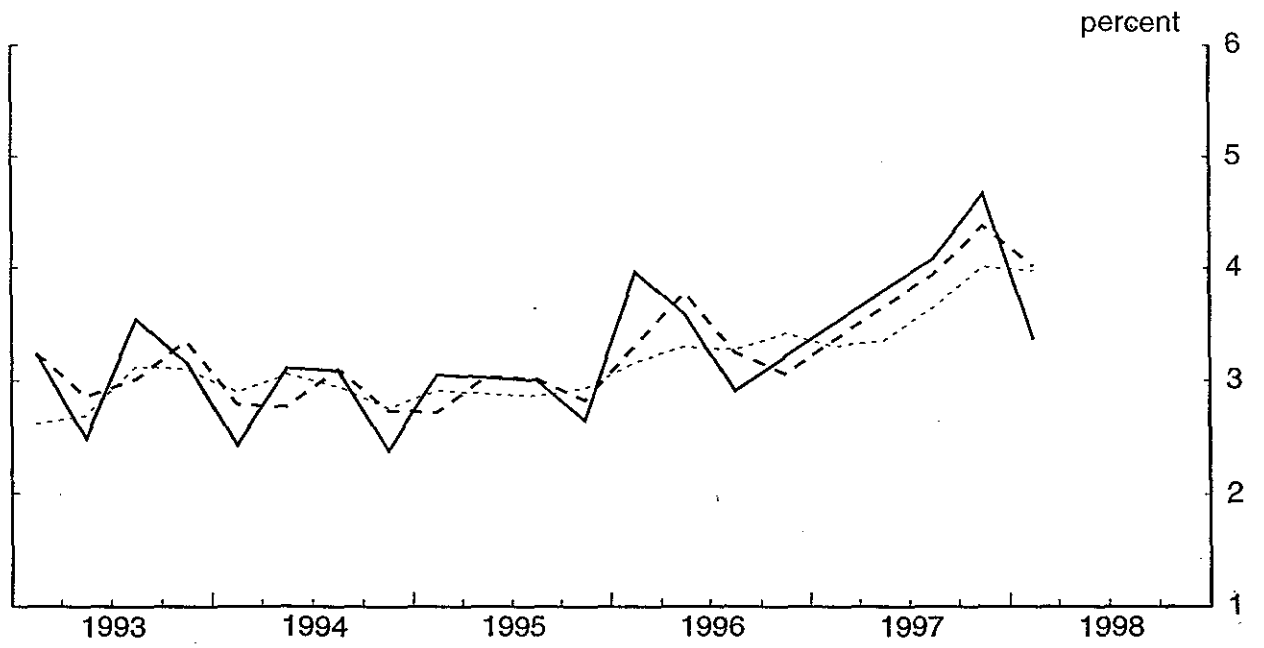
Methodologically consistent



Employment Cost Index

(Annual rate)

ECI Compensation



ECI Wages and Salaries