

APPENDIX

FOMC NOTES  
February 3 & 4, 1994  
Peter Ryerson Fisher

Mr. Chairman:

Through the end of December and into early January, the dollar rose against both the mark and the yen. In recent weeks, however, there has been a growing disparity in the course of these exchange rates: while dollar-mark has traded comfortably in a range, dollar-yen has declined sharply.

In the end of December, the dollar began a sharp rise against the mark, from 1.70 on December 17th to 1.75 on January 14th, as market participants positioned themselves to take advantage of the expected narrowing of interest rate differentials. The dollar also rose against the yen, from 109.50 at your last meeting to an intra-day high of 113.50 on January 5th, as increasingly negative sentiment toward the Japanese economy and positive sentiment toward the U.S. economy continued to widen expected interest rate differentials.

On January 6th (and again on the 20th), the Bundesbank announced that it would continue to conduct its weekly market operations at a fixed rate of 6 percent, putting off market expectations for any immediate reduction in official rates. Although short-term mark interest rates stabilized and the recently-established 20-basis-point differential in favor of the 10-year U.S. bond was quickly eliminated, the dollar did not give

up its end-of-year gains against the mark. Instead, dollar-mark has traded in range from roughly 1.72 to 1.74 while one-month implied options volatilities have declined to low levels.

Since January 24th, the dollar has declined against the yen, first gradually and then more sharply, in recent days returning to levels last seen in late November. Some in the market view the end-of-year run-up in dollar-yen as reflecting a speculative push, and the subsequent decline as a technical correction. Whether or not that is the case, at the turn of the year the foreign exchange market appeared to be focusing on the disparity in current economic fundamentals, and the likelihood that Japanese interest rates would fall and U.S. rates would rise. In January two things happened. First, there was a reduction in the extent of expected easing by the Bank of Japan. Second, market participants abruptly shifted their attention to the lack of progress in the bilateral trade talks.

As dollar-yen began to decline, it traded in increasingly choppy and nervous markets. These conditions appear to have been triggered by the still-uncertain consequences of the combination of:

1st, repeated comments by Treasury officials on the need for Japan to address its trade and current account surpluses;

2nd, the fluid reality of political reform, tax policy and fiscal stimulus in Japan;

3rd, the surprising inflow of foreign capital into the Japanese equity market; and

4th, the lack of apparent progress in bilateral trade talks leading up to the Clinton-Hosokawa meeting.

Thus, from January 25th to February 1st, the dollar declined by 3 percent against the yen while one-month implied option volatilities rose sharply and now exceed the level of 12-month volatilities.

In recent months, both the Bundesbank and the Bank of Japan have become increasingly sensitive to movements in their respective dollar exchange rates: the Bundesbank to a rapid weakening of the mark and the Bank of Japan to further yen appreciation.

The Bundesbank sees the dollar-mark exchange rate as the principal risk in its outlook for German inflation in 1994. There is both the direct impact on import prices and the indirect impact on the Bundesbank's credibility of "too rapid" a decline in the mark. For the second year in a row, the Bundesbank finds itself explaining excessive growth in German M3 -- which was announced today for December at 8.1 percent. By appearing to slow the pace of reductions in official rates and by selling dollars at times of mark weakness, the Bundesbank is seeking to avoid rapid exchange rate movements that could impair its credibility as defender of the mark's external value.

The Bank of Japan, on the other hand, is concerned that a further, sustained rise of the yen could have severe, negative consequences for the Japanese economy. Although consumption is not expected to lead any recovery, the Bank of Japan perceives a risk that a significant decline in employment could cause a deterioration in incomes and consumer confidence that would create a downward spiral for the economy. While drastic cut-backs in employment are not a normal feature of the Japanese economy, the Bank of Japan does expect labor market conditions to worsen.

Over the last few months, Bank of Japan officials have

Mr. Chairman, we had no operations during the period.

Notes for FOMC Meeting  
February 3-4, 1994  
Joan E. Lovett

Desk operations continued to seek reserve conditions consistent with Federal funds trading around 3 percent. The borrowing allowance was held at \$50 million throughout the period as the seasonal component remained very low.

At the start of the interval, we anticipated that the very large add need spanning the year-end would rapidly recede during January as required reserves and currency fell back from seasonally elevated levels. While this general pattern held true, we faced considerable uncertainty about actual reserve needs as the estimates were subject to frequent revisions for a variety of reasons.

In the year-end period, we expected demand for excess reserves to run high, as is typically the case around this time. But given the dating of the holiday, it was unclear how much additional excess banks would want and when in the period they wanted it. Late in the next period, ending January 19, the severe weather front that crossed the eastern half of the country disrupted normal reserve and information flows. Residual effects from the severe weather spilled over into the next period, which ended yesterday and distorted the flow of tax receipts after the filing deadline for individual non-withheld taxes. In fact, throughout this past interval, there were numerous large

projection misses of the Treasury balance, reflecting surprises on both spending and taxes, and we frequently faced sharply divergent forecasts of this balance. Other operating factors also proved difficult to predict--float, of course, because of the series of winter storms--and currency which has not behaved in accordance with past seasonal patterns.

Because of the uneven reserve picture over the interval, we relied almost exclusively on temporary operations. To ensure adequate liquidity through the year-end, four large fixed-term System RPs were arranged early in the first maintenance period. On the year-end date itself, the value of RPs in place was about \$15 billion. As a consequence, trading in the money market proved to be generally calm and uneventful.

Weather-related operating difficulties at the close of the January 19 period made it difficult to gauge the true reserve picture, with the funds rate quite firm relative to the statistical need. We took our cue from the money market and added reserves on the settlement day. As it turned out, float that day also soared well above the elevated level we had already allowed for. Even with reserves so plentiful, conditions in the money market stayed firm as the severe winter weather apparently disrupted normal trading patterns and left banks desirous of an unusually high level of excess reserves.

In the period just ended, a reserve surplus was seen initially, as is fairly typical for this time of year, and the Desk arranged a round of matched sale-purchase agreements over

the first weekend. The picture soon reversed itself, however, as tax receipts began to surge, in part reflecting weather-delayed processing of payments, and government spending persistently fell short of expectations. With the Treasury's TT&L capacity at the banks about exhausted, these revisions had a direct impact on reserve availability. We thus provided reserves aggressively over recent days as these balances peaked.

Federal funds mostly traded close to the desired 3 percent level, and the effective rate averaged 3.04 percent for the full period. It was rather high over the last few days and on isolated other occasions reflecting particular situations. For the period, adjustment borrowing averaged \$71 million.

In the securities markets, interest rates moved in about a 25 basis point band over the intermeeting period, but stayed within previously established trading ranges. On balance, rates on shorter-term Treasury coupons were down about 10-15 basis points while long-term yields were unchanged to down 10 basis points.

By and large, the economic data underscored the strength in output in the fourth quarter that had already become fairly evident, and which was confirmed by last Friday's GDP report. The December payroll employment number, however, caused yields to fall. The overall report did not seem all that weak, but the market had come to believe that the recent strength in output would begin to show through more fully to job creation,

and a larger payroll gain had already been discounted.

Meanwhile, price data was generally supportive of the market.

The PPI in mid-January and the latest GDP deflators released last week brought most rates to their lowest levels of the period.

Investors still have many of the same questions about the pace of the recent improvement in activity as they had before. And now, distortions caused by the severe winter weather, and possibly by the California earthquake, are seen as likely to muddy the picture for a while longer. Currently, the most prevalent view seems to be that the economy will continue to forge ahead at least at a moderate pace--after allowing for distortions to the data. A firming in policy is seen as a question of when and not if. Most participants see a move coming within the next two months as enough data would be in hand to give the Fed a visible case for acting. The Chairman's testimony led some to consider a move as possible sooner rather than later, and some see the current meeting a possible forum for that. This was not the majority view but has been the source of more active discussion today. In part, this comes from some of the recent data--for example, the price component in the NAPM--but mostly from some perceptions that Desk inaction to provide reserves this morning was an attempt to tell the market something. Most analysts do not see the Desk operating in this fashion and are aware that the meeting had not yet begun. Nonetheless, there is a vocal group who see it as meaningful, and I mention it as an indication of market skittishness.

Given these crosscurrents, the tendency of dealers has been to trade from the short side. Thus, unexpected news or customer order flows have pressed against these shorts and produced a fair degree of day-to-day variability in rates. Meanwhile, the premium on the latest 30-year Treasury bond has diminished somewhat further, and the yield on this issue now stands about 10-12 basis points below the rate on the prior bond. However, much of this narrowing in spread reflected widespread expectations that the Treasury would reopen the current bond at its midquarter refinancing, and the Treasury did so in its announcement yesterday.

Michael J. Prell  
February 3, 1994

FOMC CHART SHOW PRESENTATION -- INTRODUCTION AND ECONOMIC OUTLOOK

Chart 1 summarizes the staff economic projection. Before I run through the numbers, though, I want to say just a few words about how we arrived at the monetary policy assumption underlying this scenario. To start, we assumed that the federal funds rate would remain at 3 percent for another couple of quarters. This is somewhat arbitrary but, especially given the prevailing symmetric directive, we did not want to presume too much with regard to your near-term decisions. However, believing that maintenance of this policy stance would likely stimulate an expansion of aggregate demand that would abort the existing disinflationary trend by 1995 or '96, we assumed a gradual rise in the funds rate that we judged might be just sufficient to avoid that outcome. As was indicated in the Bluebook, we have the funds rate moving up to 4-1/4 percent by the summer of 1995.

So described, our projection may seem awfully finely wrought, given the uncertainty of forecasting. But we hope that it will provide a useful baseline against which you can apply your own thinking regarding likely economic relations and the policy risks you wish to take. With that preamble, then, I'll turn to the broad features of the projection laid out on this exhibit.

First, in the upper panel, you can see that we have real GDP growing 3 percent this year and about 2-1/2 percent in 1995. As the panel also illustrates, output growth has been paced over the past two years by the 5 percent increases in private domestic final demand-- that is, consumption plus business and residential fixed investment. Over the forecast period, we see PDFD decelerating as pent-up demands

and monetary stimulus diminish and as taxes rise; GDP growth will be buoyed, however, by a lessening of the drags from government purchases and the external sector.

With this output path, we anticipate that the civilian unemployment rate will drop about 1/4 percentage point further before leveling out--at what would have been about 6.2 percent under the existing series, but at what we are guessing will be about 6-3/4 percent under the new series that will be introduced tomorrow morning. I can't emphasize too much, though, the uncertainties that will attend those numbers for some time. Moreover--and this is something we should have noted in the Greenbook--the expiration of the emergency unemployment benefits program may tend to shave a bit from the jobless rate over the next several months, other things equal, although the likely effects may be lost in the statistical noise, if not the rounding.

In any event, by our reckoning, the projected growth will leave a rather modest degree of slack in the economy, and so we are expecting only grudging further progress toward price stability. As indicated in the bottom panel, the core CPI is projected to decelerate just a tenth of a percent per year; owing to the anticipated paths of food and energy prices, however, the overall CPI is forecast to accelerate to something over 3 percent.

As I have noted, we are assuming that monetary policy will be shifting in a less expansionary direction. But, in general, we see financial conditions overall as positive for growth. Chart 2 illustrates a few key points in this regard. The upper left panel shows the reduction that has occurred in household debt-service burdens. As you know, consumers have shown a willingness of late to exploit their enhanced debt capacity, and we anticipate that their

borrowing will continue to exceed income growth over the next two years; still, given our interest rate outlook, this will not raise their debt-service burdens noticeably.

Similarly, at the right, nonfinancial corporations have greatly reduced their interest expenses; and other indexes of their financial health also have improved greatly. This suggests that, should they perceive attractive investment opportunities, they will have the capacity to expand their borrowing.

The middle two panels relate to the supply of funds. At the left, you can see that the enormous growth of mutual funds has enabled them to capture a major share of the debt and equity markets. We are projecting that these flows will slacken some, partly on the thought that much of the most footloose money may already have shifted out of deposits, and partly in the anticipation that--even if long-term rates remain in the recent range, as we expect--the returns earned by the funds will moderate and be less enticing to investors. But the projected mutual fund flows are still sufficient to provide considerable support to the capital markets.

Should there be any glitches in this sanguine outlook, and investors pull back somewhat more from the mutual funds, commercial banks appear both more able and more willing to extend credit. As shown at the right, our loan officer survey has indicated an ongoing shift toward easier terms for a while now.

The bottom panel illustrates our expectation that the projected growth of private spending would not require massive amounts of external finance. Total funds raised by households and businesses increase only moderately relative to GDP, at a time when governmental borrowing should be diminishing.

Let me turn now to a discussion of the spending outlook behind these credit flows. Chart 3 portrays key features of our projection of consumer spending. As may be seen in the top panels, we are expecting that the growth of real PCE will decelerate somewhat over the projection period, as it moves into line with increases in disposable income.

I suspect that, by now, many of you have heard more than enough conjectures about the decline in the personal saving rate since mid-1992. I'll be happy to return to this topic later if you would like, but for the time being, I'm going to jump to the bottom line in terms of the interpretation that shaped our forecast. Basically, we think that what may have occurred is simply a variant on the kind of step-ups in consumer demand and declines in the saving rate that have occurred during some earlier business cycle upswings. In the latter half of 1992--as the unemployment rate finally turned down--low interest rates, household reliquification, and improving--albeit erratically--confidence combined with some pent-up demand to produce an upturn in purchases of durables.

If you look at the black line in the middle panel, you'll notice that there have been dips in the personal saving rate in each expansion period. In each case, there was a marked pickup in spending on consumer durables; households, in effect, substituted investments in real assets for financial saving. An alternative measure of saving--the red line--that adds on net investment in consumer durables, tends to flatten out these dips--and has done so in the most recent period.

The bottom left panel focuses on one of the drivers behind the surge in durables outlays--motor vehicles. Sales of cars and, especially, light trucks, rose substantially in 1993. In the fourth

quarter, the annual pace was almost 14.6 million units, a respectable level, and one high enough to begin to eat into the demand for replacement of the old vehicles on the road. In the forecast, this process continues, as sales edge a tad higher.

The right panel looks at other consumer durables and illustrates the historical correlation of such spending with housing transactions. We are projecting that there will be strong increases in these expenditures in the near term, but that outlays will decelerate considerably by the latter half of this year as home sales slow somewhat.

This brings me to the next chart, chart 4, which deals with the outlook for the housing sector. There likely was some flukiness to the extraordinarily strong December numbers on single-family starts and new home sales. But, looking at recent survey readings on consumer attitudes regarding homebuying conditions and the economic fundamentals, we are persuaded that there is a strong underlying demand for homes--one that can persist for some time, if long-term mortgage rates remain near recent levels. The forecasted volumes of 1.3 million single-family starts in 1994 and just a little less in 1995 are quite high by the standards of recent years.

The case many analysts make against such robust numbers is the existence of unfavorable demographic trends. As the middle-left panel indicates, it has been projected that household formations will average 1.2 million per year during the first half of this decade. Translating this into an underlying demand for housing, with due allowance for demolitions, mobile homes, and so on, one would not arrive at a demand for units--singles and multis--nearly so high as the 1-1/2 million that we've forecast. But there surely is some elasticity in the rate of household formation in the short run, and

there also is the potential for a considerable increase in the rate of homeownership. As may be seen at the right, the homeownership rate has slipped in the past decade or so after trending upward for many years. We suspect that not all of this was a voluntary lifestyle choice, but that it reflected at least in part basic problems of affordability. The recent sluggishness of home prices and decline in mortgage rates hasn't cured all of these problems, but as you can see at the lower left, the ratio of the typical monthly mortgage payment on a new home to average household disposable income has dropped enormously. We think that this will continue to promote the influx of first-time homebuyers.

Of course, many of these folks will be moving out of apartments, and the multifamily rental vacancy rate--graphed at the right--has only begun to move down from an extremely elevated level. Conditions for apartment building appear good in some locales, but we are anticipating that, overall, multifamily starts will post only a limited advance within the projection period.

Besides consumer durables and housing, the other major source of strength as the year began was business fixed investment. As the upper right panel of chart 5 indicates, real BFI increased almost 15 percent last year and we are projecting rather hefty, though smaller, gains in 1994 and '95. The graph at the left illustrates the major role of computer outlays in this growth: they accounted for fully half the BFI gain in 1993 and, from their now higher base, we expect that they will account for even larger shares over the next two years, despite a considerably reduced growth rate.

There are several reasons for this relative strength, but the middle left panel highlights one rather compelling factor: computers have been getting cheaper at a fast clip. Although, in our forecast,

interest rates will no longer be moving in a direction that lowers the cost of capital, the continuing sharp decline in their prices will be reducing further the expense of using computers.

As I noted, we do expect some slowing in the growth of computer purchases and of overall business fixed investment. This would be anticipated on the basis of the flattening out of GDP growth over the past couple of years--the so-called accelerator effect--and it also is consistent with the slower growth of corporate cash flow going forward. The panel at the right shows that capital spending, including inventory investment, is projected to exceed internally generated funds by a widening--though still not troublesome--margin.

The bottom panels relate to inventories. We expect that businesses will be continuing to look for ways to minimize inventory costs and that this will keep the stock-to-sales ratio tilted downward, as shown at the left. On this assumption, we have projected a moderate rate of nonfarm inventory accumulation, which makes no significant contribution to GDP growth.

Turning now to the government sector, chart 6 illustrates the point I mentioned early on, that federal fiscal policy will be exerting an ongoing drag on domestic demand. The direct effects of restraint on federal purchases of goods and services are shown in the top panels. Given trends in appropriations, we think that the contraction in defense purchases probably will slow over the next two years, but the decline is still large enough to put the annual changes in total purchases in decidedly negative territory.

The middle panel looks at the federal sector in broader terms. Both the unified and the structural budget deficits are slated to shrink appreciably. One might argue that the jump in tax revenues

this year overstates the current restrictive force, because people-- knowing the increases in rates were ahead--may already have adjusted their spending in 1993. We believe that this is true to a degree, but that there will be a significant bite this year.

Many state and local governmental units also have been under budgetary pressure in recent years. Nonetheless, real purchases are estimated to have risen 3 percent last year and we are projecting further moderate gains in 1994-95. Demands for services remain intense, and with the bond markets affording most units ready access to capital, construction has been quite strong. We are anticipating that building activity will remain at an elevated level, and the operating and capital account deficit of the state and local sector is projected to shrink only a little.

Peter will be completing the demand picture in a few minutes, when he discusses the outlook for net exports, but I shall now leap ahead to the aggregate supply and inflation picture. Chart 7 portrays some key facets of our labor market forecast. First, we are anticipating that improving efficiency will remain a major goal of businesses, and that labor productivity will continue to rise appreciably. As the upper left panel illustrates, the recent behavior of output per hour has conformed to the broad patterns of prior cycles, if one assumes that the underlying trend of productivity growth has picked up in the 1990s to approximately 1.4 percent per annum. If this way of thinking about what has been occurring is right, productivity moved above trend as firms skimped on hiring with the initial upturn in output and may not drop back to trend until we get to the point in the cycle where lower quality labor and older machinery must be brought into play. We are projecting that output

per hour will rise at the trend rate this year and decelerate just a touch in 1995.

This implies that, to achieve the output growth we've projected, there will have to be a moderate increase in hours of labor input. This can occur in two ways: longer workweeks or more workers. The fixed costs of hiring additional workers make extending hours attractive; but we hesitate to extrapolate the rise in the workweek that has already occurred and thus we expect that a larger proportion of the increase in hours will translate into added employment. As the middle left panel illustrates, we are anticipating that payroll increases will average around 175,000 per month in the near term and slow to about 150,000 per month, on average, in 1995. This is translated into percentage terms in the right panel. We are anticipating similar gains in household employment, but the figure for 1994 shown in the table is distorted by the fact that the January number that will be released tomorrow will incorporate a huge upward adjustment to reflect the 1990 Census undercount of some segments of the population.

In developing a projection of the unemployment rate, one of course also needs to consider the supply of workers. The labor force participation rate has been a source of surprises in the past few years, and our forecast therefore carries with it considerable uncertainty. The projection of some increase in the participation rate assumes that the extended sideways movement of recent years reflects a combination of trend and cyclical influences. Our expectation is that, as job opportunities multiply, participation will turn upward. Again, the labor force growth figures, listed at the right, will be distorted by the adjustment of the population figures. If we are wrong and the participation rate fails to break out of its

sideways channel, then--other things equal--the result could be a more rapid decline in unemployment and an intensification of pressures on wages.

This brings me to the next chart, which deals with the inflation outlook. The upper left panel shows that we are projecting that compensation per hour, as measured in the Employment Cost Indexes, will continue to rise about 3-1/2 percent per year--the pace observed in 1992 and 1993. Although we think there is some wage-damping slack in the economy overall, we are not sanguine about the prospects for a further deceleration in nominal compensation over the next two years. In part, we are simply recognizing the flattening that has occurred over the past two years when the amount of slack was considerably greater. But, in addition, reports of difficulty in finding desired workers seem to be on the rise; pension funding requirements appear likely to rise; and with consumer prices widely anticipated to continue rising 3 percent or so, it appears unlikely that employers with growing businesses are going to push wage increases much below that rate. As the red line indicates, though, our 3-1/2 percent compensation forecast implies that real compensation gains, measured in terms of consumer prices, will remain meager.

With trend unit labor costs rising just a little more than 2 percent per year, there would appear to be room for some further deceleration of prices without reversing the cyclical expansion of markups that has occurred. One factor that could affect markup behavior, however, is capacity utilization. The right panel shows our forecast of the utilization rate. As you can see, revisions of the figures, to be made public tomorrow morning, indicate slightly lower utilization than the previous estimates. Even so, the utilization rate is projected to run considerably above its long-run average over

the next two years. The level remains below past cyclical peaks, but -like the jobless rate--it does suggest that the margin of slack will be getting rather narrow. Although, as Peter will soon be discussing, competition from abroad may be a mitigating factor to a degree, the growing tightness in domestic plant use works against a substantial narrowing of markups over unit labor costs.

Also working against an improved inflation performance in the near term is the outlook for energy and food prices. Foreseeing some firming of the oil market, we are projecting that retail energy prices will accelerate in the coming months. We've anticipated a further hit early in 1995 from the mandated use of reformulated gasoline. On the food side, shown at the right, we are projecting a somewhat firmer retail price picture than we've seen over the past couple of years, a legacy of the 1993 crop losses.

The bottom panel shows our projections of the overall CPI and the core CPI on a quarterly basis. Having described the broader contours in my first chart, the main point of this panel is to take note of the possibility we see that there will be a muted repeat this year of the acceleration of the core CPI that occurred in the first part of 1993. The recent surge in business activity and rise in resource utilization may prompt firms to be a bit more aggressive in pricing, and so we've built into our inflation forecast a so-called "speed" effect that unwinds as activity moderates over the next couple of quarters.

Peter will now continue the presentation.

Chart Show  
Peter Hooper  
February 3, 1994

As Mike suggested, a question that is attracting growing attention these days is the extent to which increasing economic slack abroad is affecting the potential for inflation to pick up in the United States. In reviewing recent developments and our outlook for the external sector, I will give particular emphasis to the roles that key foreign variables are playing in damping U.S. aggregate demand and restraining inflationary pressures.

The effects of weakness of economic activity abroad have shown up clearly in foreign exchange markets. As indicated in the top left panel of Chart 9, since August 1992, the price-adjusted foreign exchange value of the dollar in terms of G-10 currencies (the solid red line) has appreciated substantially, from the bottom of the broad range that has prevailed in recent years to near the top of that range. Given the average lags of one to two years over which exchange rate movements affect trade flows, this most recent upswing in the dollar has important implications for the current forecast period.

When we add in the currencies of the eight key U.S. trading partners among developing countries (as shown by the dotted line in the chart and at the bottom of the panel on the right), the dollar has appreciated somewhat less since August 1992. In fact, the dollar has depreciated on average against the currencies of these eight countries, whose real growth, on the whole, has been considerably more robust than that of the G-10.

As indicated in the middle left panel, among the G-10 (and in nominal terms), the dollar has risen most against the

European currencies, less against the Canadian dollar, and has depreciated on balance against the yen. The rise in the dollar against the G-10 average has been associated with an increase in the differential in real long-term interest rates (the black line in the chart above), as foreign rates have fallen more than U.S. rates. The middle right panel shows that German short-term and long-term rates have declined substantially more than U.S. rates over the past year and a half. This is less true of Japanese rates; and as Peter Fisher has indicated, the relative strength of the yen is attributable to other factors, including the influence of Japan's large and growing trade and current account surpluses on market expectations.

We expect short-term rates abroad to decline somewhat further over the period ahead and long-term rates to edge down. Our outlook has the dollar on average remaining about unchanged from its recent level.

Turning to recent indicators for the G-6 foreign industrial countries, the top left panel of Chart 10 shows average industrial production and inflation in the two countries whose economic recoveries are now well under way. Output in Canada and the United Kingdom combined has risen since mid-1992, and underlying inflation has leveled off in the past year. In Continental Europe and Japan, however, IP has continued to decline, although the rate of decline has slowed; meanwhile, inflation has receded a bit further. We think that real output in Japan and France has bottomed out, but that output in Germany could weaken a bit further early this year.

The projected economic recovery in the foreign G-6 over the next two years is sluggish in comparison to previous cycles. One reason is the significant drag imposed by fiscal consolidation, as indicated in the middle two panels. In Canada and the United Kingdom, both structural budget deficits (the black bars) and actual budget deficits (the red bars) are projected to decline--the actual by amounts exceeding 1 percent of GDP per year. In Continental Europe and Japan combined, the structural deficit is expected to decline, but the actual deficit could widen slightly this year. The picture for Europe alone is considerably more contractionary than that shown here; in Japan, recent and expected fiscal packages are expected to be a major source of stimulus in the near term. The tax cut proposal announced today is roughly in line with the assumption underlying our forecast, though the timing of its implementation remains uncertain.

Outside Japan, we expect that the primary stimulus to growth will be past and some moderate further easing of monetary policy. As indicated in the bottom panels, short-term real interest rates have declined to near their lows of the past decade, and we expect rates in Europe to decline somewhat further this year. Nevertheless, monetary policy abroad can still be described as cautious overall, and we do not expect real rates to move to anywhere near the negative levels seen during the 1970s.

Our outlook for foreign real GDP growth is summarized in the top two panels of the next chart. We expect overall foreign growth (the red bars in the left panel), to continue to fall short of U.S. growth in 1994, but to exceed U.S. growth in 1995.

The breakdown of foreign growth in the right panel shows the G-6, other smaller foreign industrial countries, and developing countries all contributing to the pickup. As indicated in the middle left panel, growth in Canada and the U.K. combined is expected to continue at or slightly above its recent pace, while growth in the other G-6 countries remains relatively weak this year and picks up more noticeably in 1995. The beneficial effects of the NAFTA for Mexico should be reflected in a pickup in that country's real growth. We expect the NIEs and China to continue growing rapidly, with China's expansion slowing a bit from last year's pace.

The relatively slow recovery of the G-6 countries on average is reflected in a slight further widening of their output gap in 1994, as shown in the middle right panel. The gap should level off in 1995, however. This economic slack will further depress consumer price inflation in the G-6 countries (the red line in the bottom left panel), and we expect to see the average rate of inflation fall below two percent over the forecast period. As indicated in the bottom right we expect to see inflation receding in Japan, Germany, France, and Italy.

The importance of the various regions of the world as markets for U.S. exports is illustrated in the top left panel of Chart 12. In 1992, Canada and the United Kingdom together accounted for about one-fourth of our exports, other industrial countries about one-third, and developing countries the remaining 40+ percent. As indicated in the top right panel, over the past 20 years, the share of exports going to developing countries (line 4) has increased 10 percentage points, with Mexico and Asia

(lines 5 and 6) the big gainers, while the share going to industrial countries has declined.

A breakdown of the recent growth of exports by region is shown in the middle left panel. In 1992, developing countries (line 4) accounted for all of the growth in exports. In 1993, a significant portion of the increase went to industrial countries (line 1), but that expansion was more than accounted for by Canada and the United Kingdom (line 2), as exports to other industrial countries (line 3) declined further.

Looking ahead, we expect the growth of real exports of goods and of services (lines 1 and 5 of the middle right panel) to pick up over the forecast period. The higher growth of goods exports reflects a slow recovery in shipments of agricultural commodities (line 2), and, more importantly, rapid growth of exports of computers. Computer exports should accelerate as the new generation of microprocessors shifts demand somewhat toward U.S. production. The growth of other exports (line 4), which account for more than three-fourths of total goods exports, is expected to remain unchanged at 3 percent per year. We think the anticipated stimulus from faster growth abroad will be offset by the depressing effect of the appreciation of the dollar over the past year and a half.

The growth of real exports of goods and services (the blue line in the bottom panel) is projected to exceed real GDP growth by a significant margin. But most of the pickup in export growth is in computer exports, which we expect will be offset by an even greater expansion of computer imports. Excluding

computers (the red line) export growth is expected to exceed GDP growth by a much smaller margin.

Turning to imports, the breakdown of U.S. imports by region (the top left panel of chart 13) looks similar to that for exports, although Japan's share of the import pie is somewhat larger than it was for exports. The recent growth of imports (top right panel) has been fairly evenly distributed across regions, with the notable exceptions that imports from Mexico (line 5) grew unusually strongly last year, while imports from other LDCs fell with the decline in oil prices.

As indicated in the middle left panel, we expect the growth of real imports of goods (line 1) and of services (line 5) to slow somewhat over the next two years. The primary factor influencing U.S. import growth is the growth of U.S. real GDP. Normally, we expect the largest component of goods imports (those other than oil and computers) to grow about twice as fast as GDP. As shown in the middle right panel, during 1992 and 1993 these imports grew well over twice as fast as GDP. Most of the extra growth of imports probably can be attributed to increasing competitive pressures on the part of foreign suppliers. The pricing behavior of foreign firms in the U.S. market has been driven by the appreciation of the dollar and by slack demand in their home markets. Over the period ahead, we expect the growth of these imports to slow to something closer to double the rate of growth of GDP as stimulus from past declines in the relative price of imports diminishes.

Our outlook for non-oil import prices is shown in the bottom left panel. Increases in these prices were damped in 1993

by the appreciation of the dollar, and we expect the same to occur in 1994. Increases in 1995 will be limited by further declines in foreign inflation. The price of oil imports (bottom right panel) has fallen sharply over the past year and a half as OPEC and some non-OPEC production has continued unabated in the face of relatively weak world demand. In line with market expectations, these prices should bounce back a bit over the next several months as world demand picks up and North Sea production is curtailed. In the longer term, however, we are assuming that ample excess capacity among various OPEC countries will prevent the WTI spot price from rising above \$17.50 per barrel on average.

Our outlook for the overall external balance is presented in Chart 14. As indicated in the top panel, by the black bars, growth in exports of goods and services is projected to pick up noticeably during 1994 and 1995 while import growth tapers off. This projection nevertheless implies a substantial further widening of the U.S. current account deficit (line 1 in the middle panel), which we see reaching about \$165 billion by the end of 1995. This widening of the deficit fully reflects the decline in real net exports (in line 6). However, the projected rate of decline in real net exports slows over time. As shown in line 8, after having subtracted about 1 percent from GDP growth during 1993, we expect real net exports to subtract 2/3 percentage point during 1994 and only 1/3 percentage point during 1995.

The bottom panel summarizes the implications of the external sector for the outlook for U.S. inflation. The primary

channels through which foreign developments influence U.S. inflation are changes in the relative prices of oil and non-oil imports, and the contribution of changes in real net exports to the U.S. output gap. I should note that we have been unable to find significant statistical evidence to suggest that international factors affect U.S. inflation through channels other than import prices and the aggregate demand effects on real net exports. That is, standard output-gap models of U.S. inflation that incorporate these channels appear to have fully explained the decline in U.S. inflation in recent years.

We estimate that the decline in oil import prices relative to U.S. consumer prices (line 1) subtracted about four-tenths of a percentage point from the inflation rate in 1993. Lagged effects of that decline are expected to subtract a bit more in 1994 despite an anticipated increase in oil prices this year, but will have no visible effect in 1995. The relatively low rate of import price inflation (line 2) subtracts about two-tenths percent each year. The decline in net exports (line 3) depresses the inflation rate by an amount that increases over the period as the cumulative effect of the decline in net exports on the output gap grows. This net export effect is purely a partial equilibrium estimate that assumes no policy easing to keep aggregate demand from falling. As totaled up in line 4, we estimate that external factors will have a negative effect on the level of U.S. inflation over the next two years, although that damping effect will diminish somewhat over time.

In your next chart we have considered how the outlook for U.S. growth and inflation would differ if real activity in

the rest of the world picks up significantly faster than we are projecting. The alternative scenario presented here has three key elements. The driving assumption is that the annual rate of foreign GDP growth increases by 1 percentage point relative to the baseline forecast as a result of stronger growth in private domestic demand. This increase in growth is enough, for example, to reduce the projected G-6 output gap at the end of 1995 by about 40 percent. Second, consistent with the increase in world growth, the scenario also assumes that oil prices would rise \$3 per barrel during 1994 and remain unchanged at their higher level thereafter. Third, the federal funds rate is assumed to remain unchanged from its baseline path. With U.S. short-term interest rates held unchanged and foreign rates allowed to rise, the dollar depreciates by roughly 5 percent per year relative to baseline over the simulation period.

As indicated in lines 1 and 2 in the bottom of the panel, this alternative scenario implies slightly higher U.S. GDP growth than the baseline in 1994 and a more noticeable difference in 1995. CPI inflation (line 4) would rise to 3.7 percent in 1994 and slightly further in 1995. The underlying model also indicates that these effects could be largely offset by a 100 basis point increase in the federal funds rate implemented during the next several months.

Finally, the direction of this alternative scenario notwithstanding, we feel that the risks to the outlook for the external sector are reasonably balanced. That is, we would attach equal probability to a scenario involving a 1 percentage

point decline in foreign growth and lower oil prices. And the effects would be roughly symmetrical to those shown here.

Let me now pass the presentation back to Mike to present the Committee's forecasts.

Michael J. Prell  
February 3, 1994

FOMC CHART SHOW PRESENTATION -- CONCLUSION

The final chart summarizes the forecasts that you submitted. In broad terms, most of you are projecting that growth will be sufficient to achieve small to appreciable further declines in unemployment, and no further progress toward price stability.

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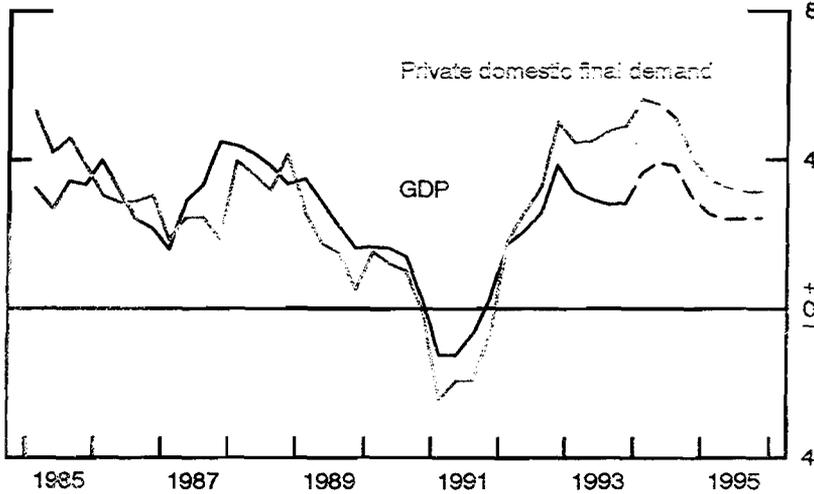
*Material for*  
*Staff Presentation to the*  
*Federal Open Market Committee*

*February 3, 1994*

Chart 1

Summary of Staff Projection

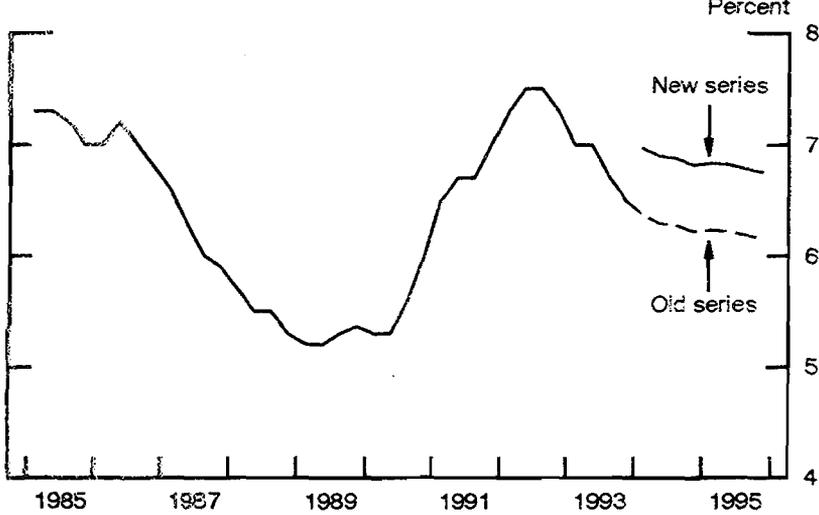
REAL GDP AND PRIVATE DOMESTIC FINAL DEMAND  
4-quarter percent change



OUTPUT AND SPENDING

Percent change, Q4 to Q4		
	GDP	PDFD
1990	.2	-.1
1991	.3	-.7
1992	3.9	5.0
1993	2.8	4.9
1994	3.0	4.0
1995	2.4	3.1

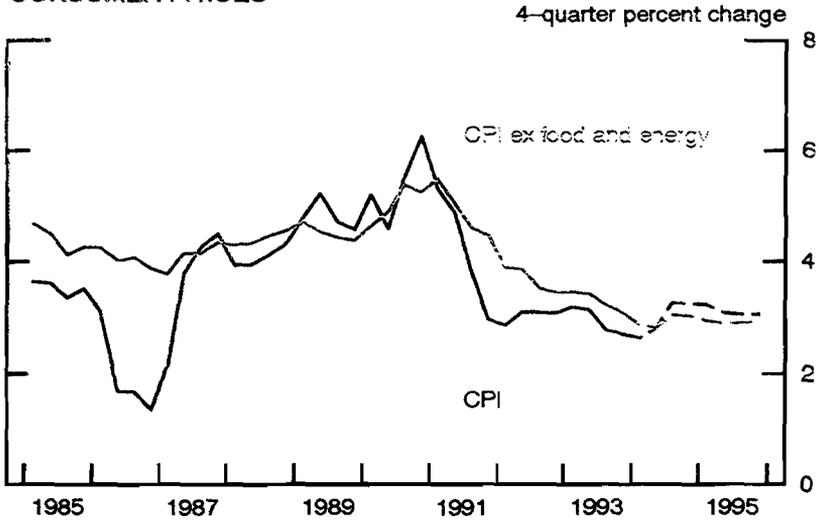
CIVILIAN UNEMPLOYMENT RATE



UNEMPLOYMENT

	Level, Q4	
	Old series	New series
1990	6.0	
1991	7.0	
1992	7.3	
1993	6.5	
1994	6.2	6.8
1995	6.2	6.8

CONSUMER PRICES



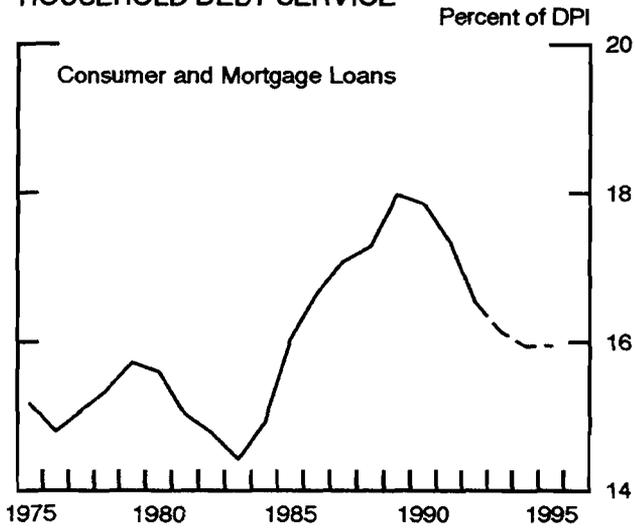
INFLATION

	Percent change, Q4 to Q4	
	CPI	Ex food & energy
1990	6.2	5.2
1991	3.0	4.5
1992	3.1	3.4
1993	2.7	3.1
1994	3.3	3.0
1995	3.1	2.9

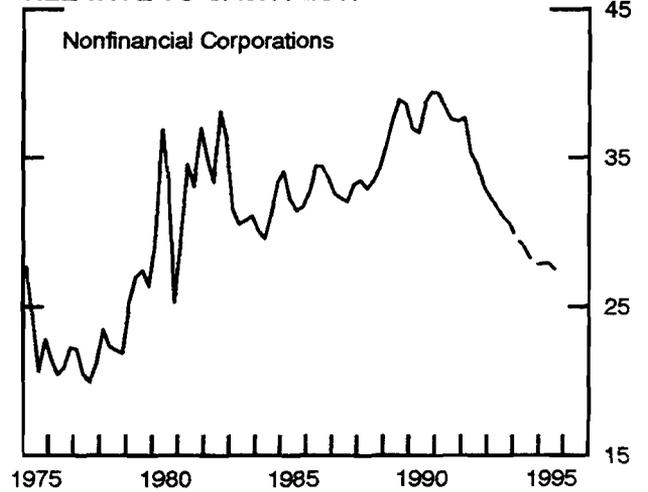
Chart 2

### Financial Conditions

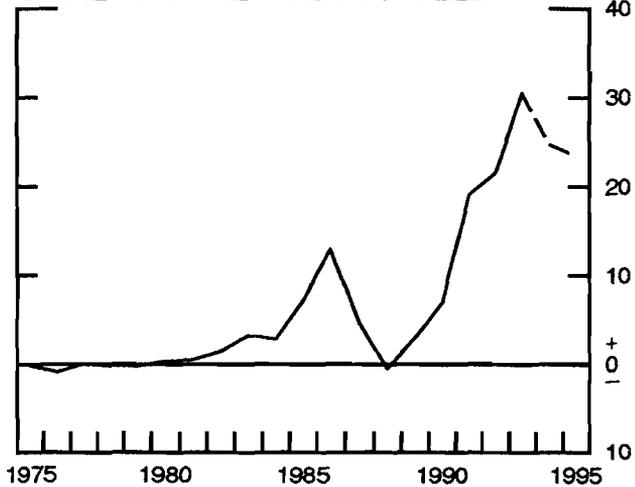
HOUSEHOLD DEBT SERVICE



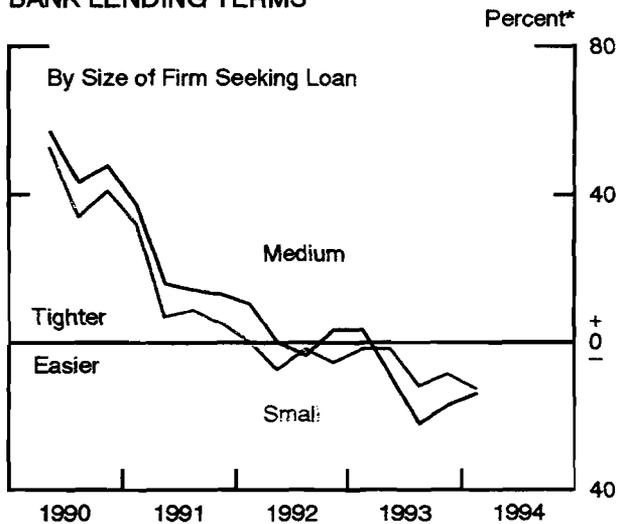
CORPORATE GROSS INTEREST PAYMENTS RELATIVE TO CASH FLOW



MUTUAL FUND INVESTMENTS AS A SHARE OF TOTAL FUNDS SUPPLIED



BANK LENDING TERMS



\*Net percentage reporting tighter standards and terms.

NET FUNDS RAISED, RELATIVE TO NOMINAL GDP

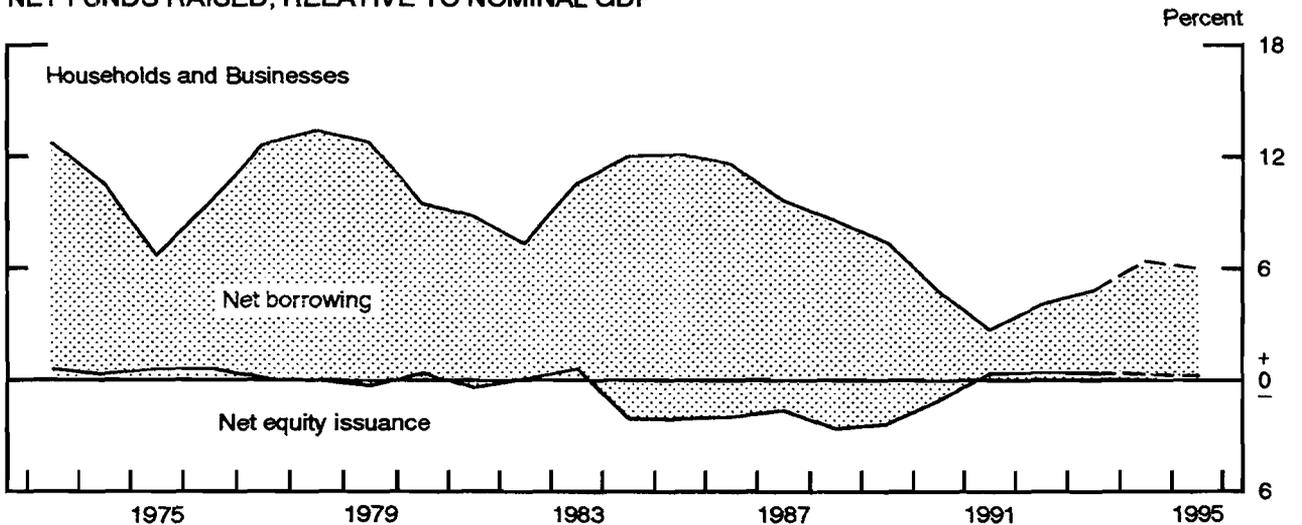
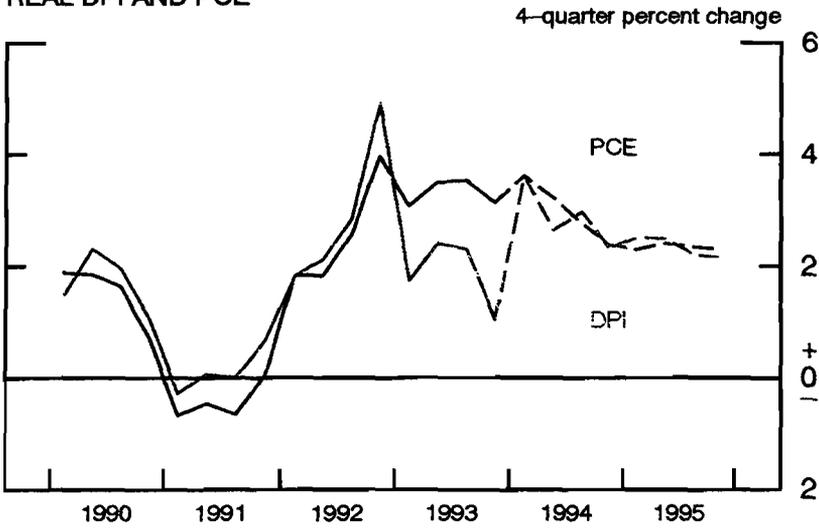


Chart 3

### Consumption

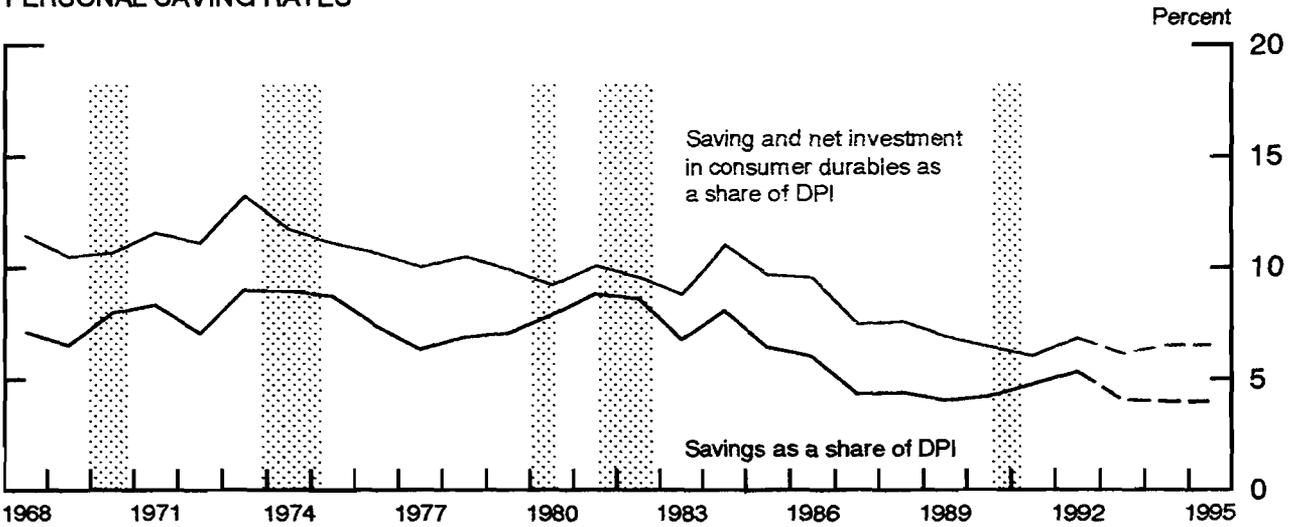
REAL DPI AND PCE



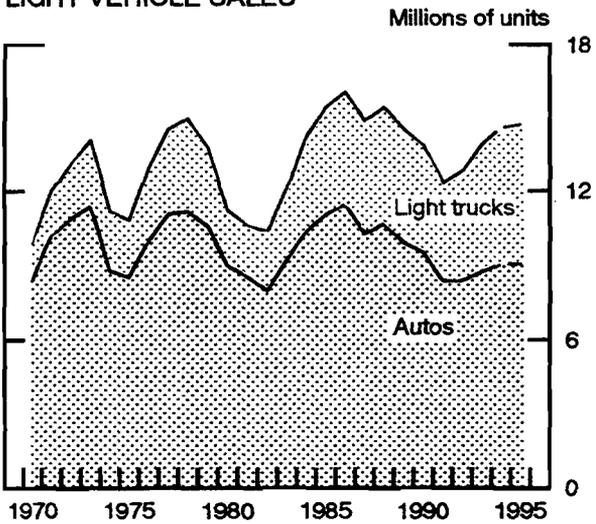
INCOME AND SPENDING

Percent change, Q4 to Q4		
	DPI	PCE
1990	1.1	.7
1991	.7	0
1992	4.9	4.0
1993	1.0	3.1
1994	2.3	2.4
1995	2.2	2.3

PERSONAL SAVING RATES



LIGHT VEHICLE SALES



HOUSING ACTIVITY AND SPENDING

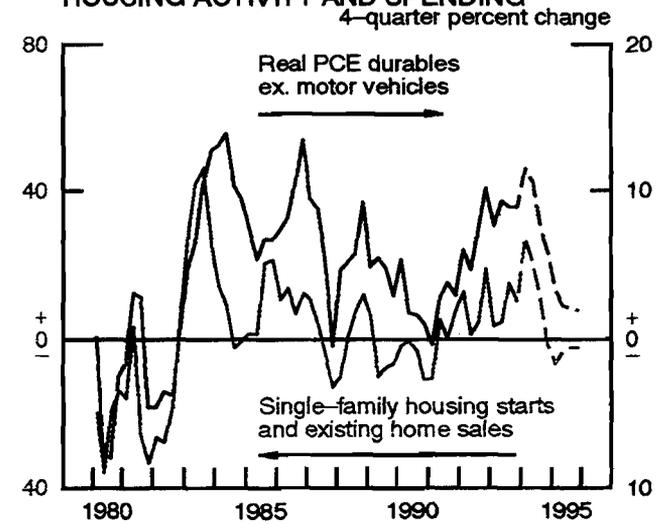
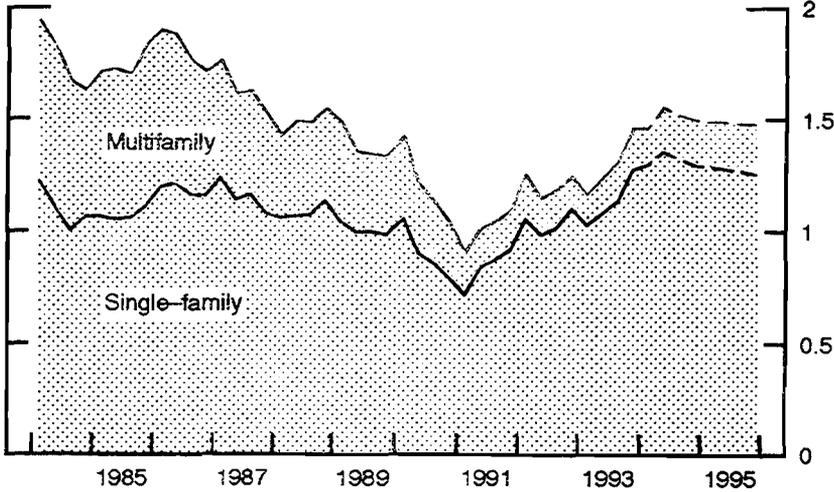


Chart 4

# Housing Sector

**HOUSING STARTS**

Millions of units, SAAR

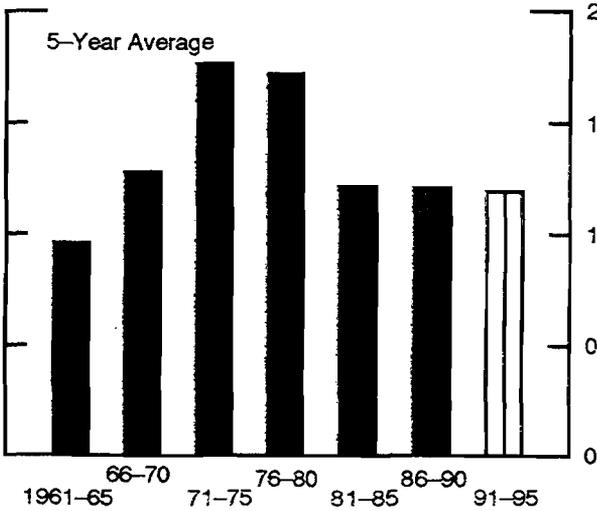


**TOTAL STARTS**

Millions of units	
1990	1.20
1991	1.01
1992	1.21
1993	1.29
1994	1.49
1995	1.48

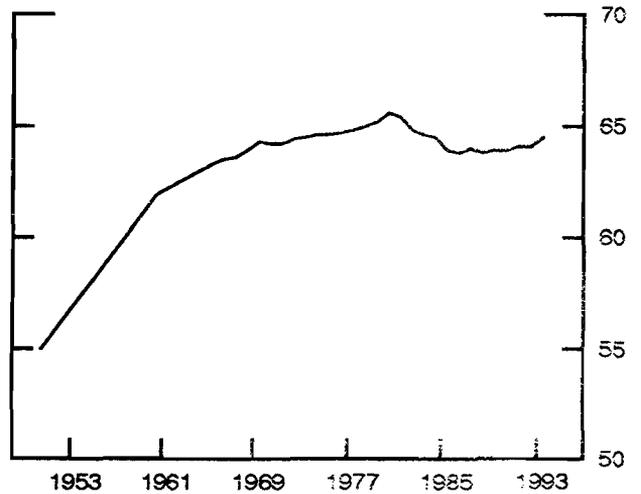
**HOUSEHOLD FORMATIONS**

Millions/year



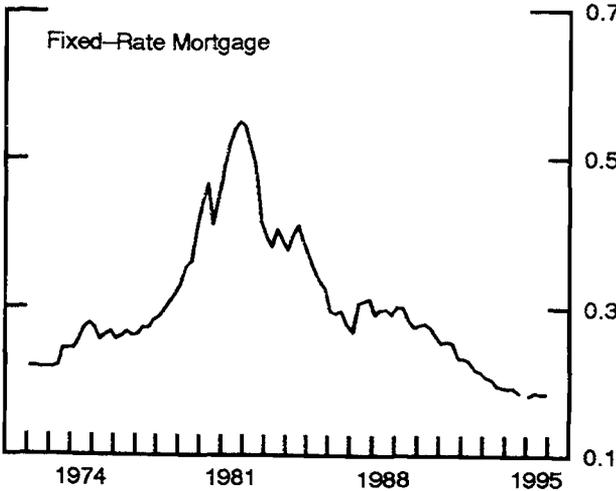
**HOMEOWNERSHIP RATE**

Percent of households



**CASH-FLOW BURDEN**

Monthly payment/DPI



**MULTIFAMILY RENTAL VACANCY RATE**

Percent

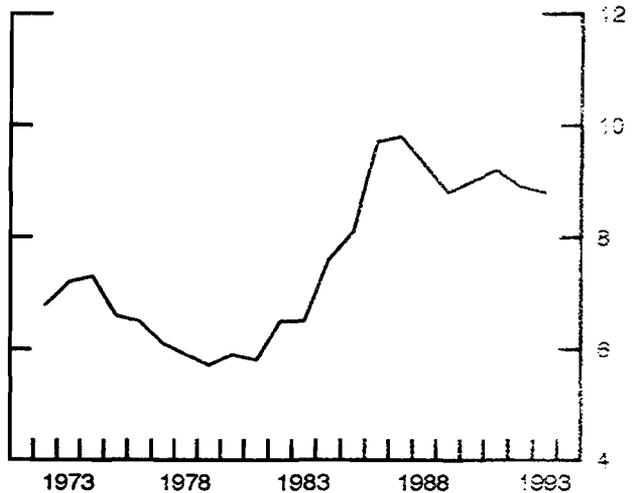
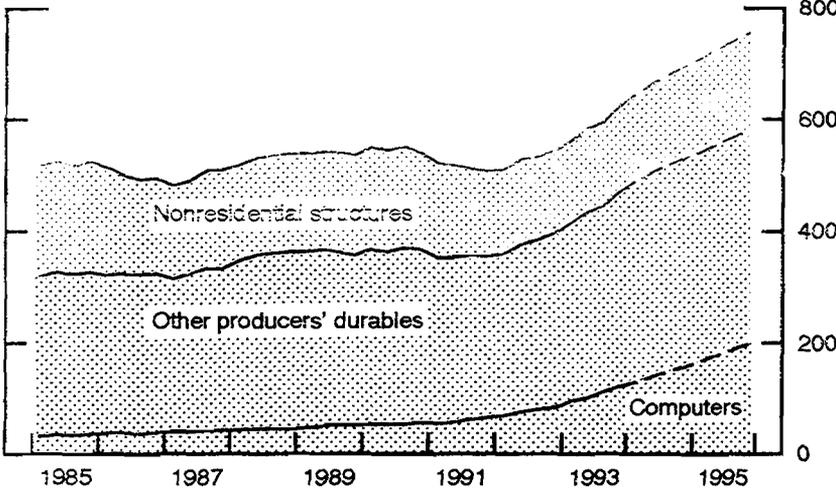


Chart 5

# Business Investment

REAL BUSINESS FIXED INVESTMENT

Billions of 1987 dollars

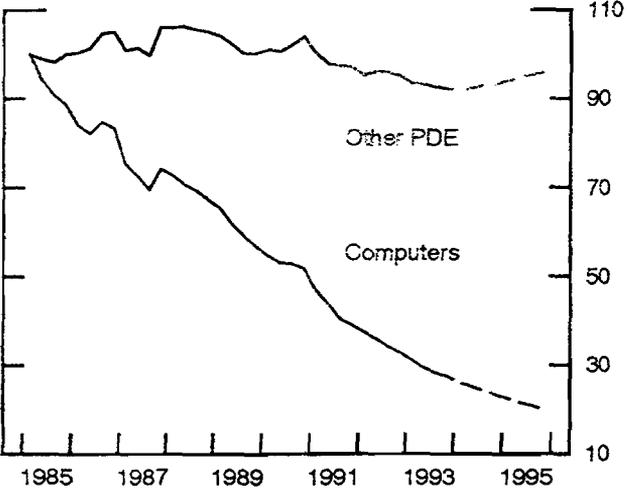


BFI GROWTH

Percent change, Q4 to Q4	
1990	.7
1991	-6.3
1992	7.4
1993	14.7
1994	11.5
1995	8.7

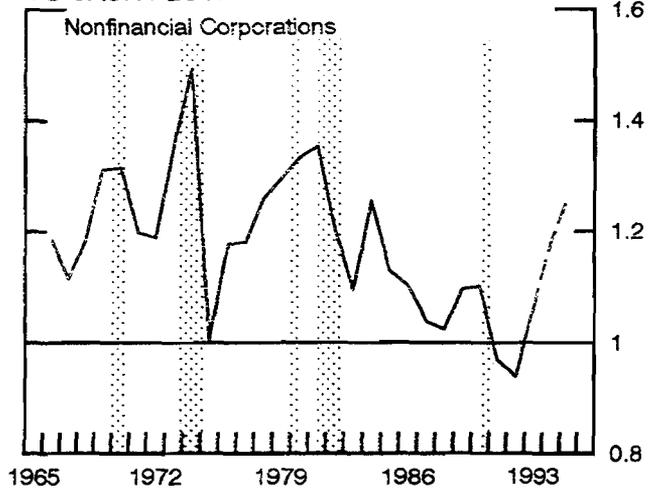
COST OF CAPITAL

Index, 1985=100



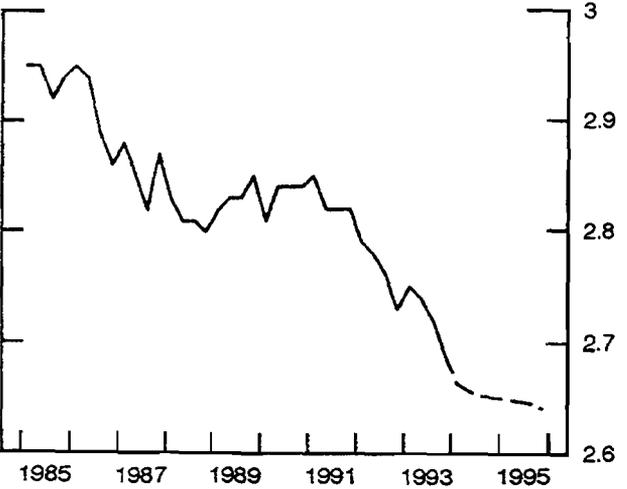
RATIO OF CAPITAL SPENDING TO CASH FLOW

Ratio



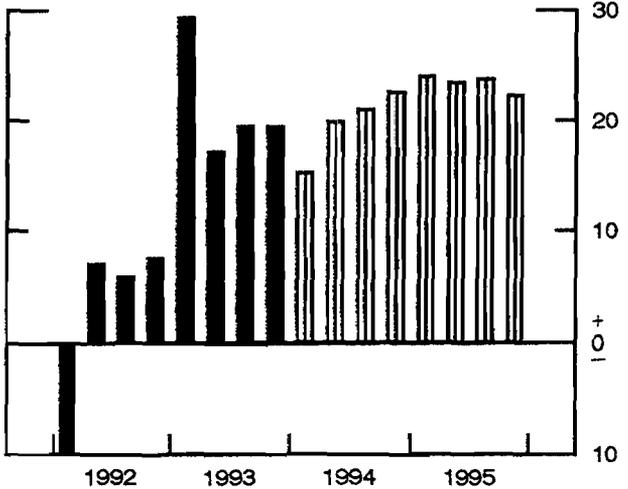
INVENTORY-SALES RATIO\*

Ratio



NONFARM INVENTORY INVESTMENT

Billions of 1987 dollars, SAAR

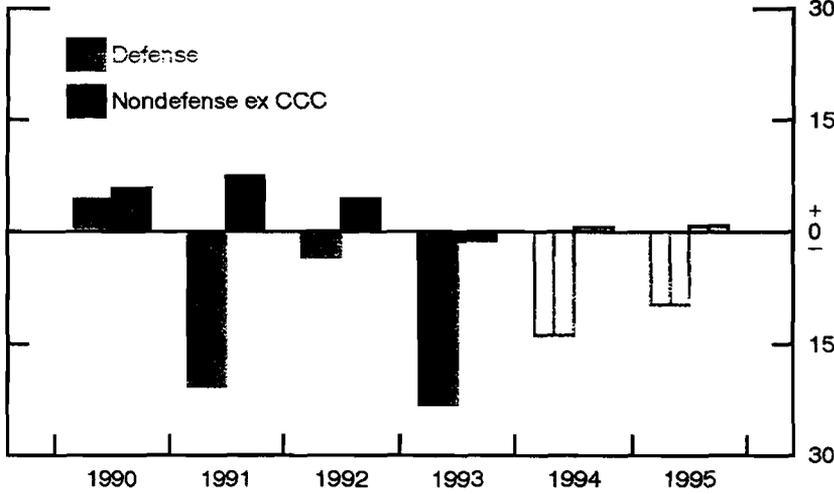


\*Ratio of inventories to business final sales.

Government Sector

CHANGE IN REAL FEDERAL PURCHASES

Q4 to Q4, billions of 1987 dollars

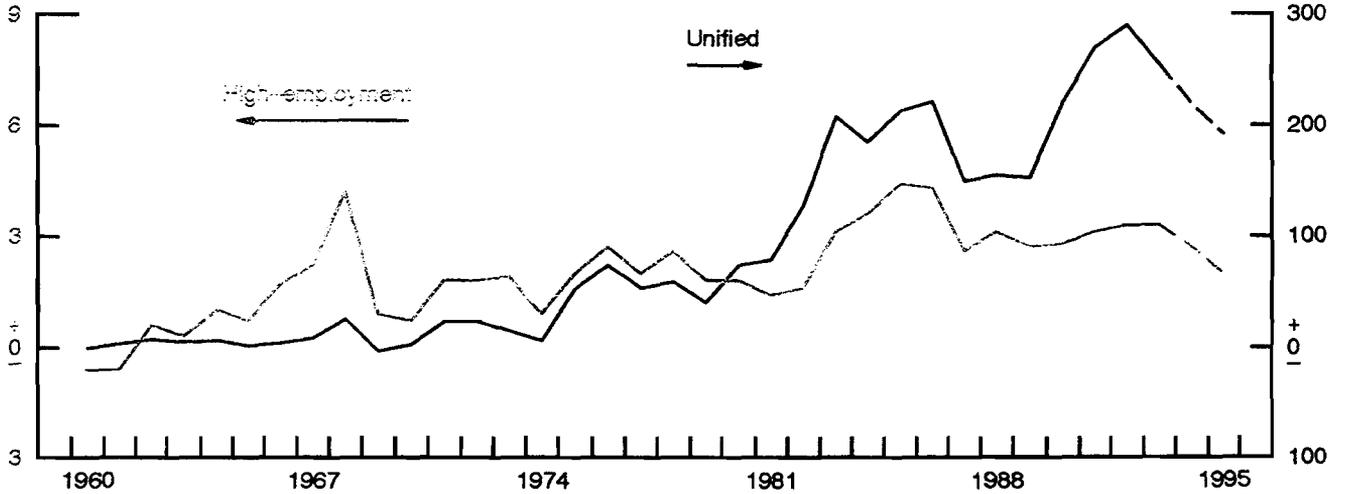


TOTAL PURCHASES

Percent change, Q4 to Q4	
1990	2.8
1991	-3.7
1992	.4
1993	-6.4
1994	-4.0
1995	-2.7

FEDERAL BUDGET DEFICIT\*

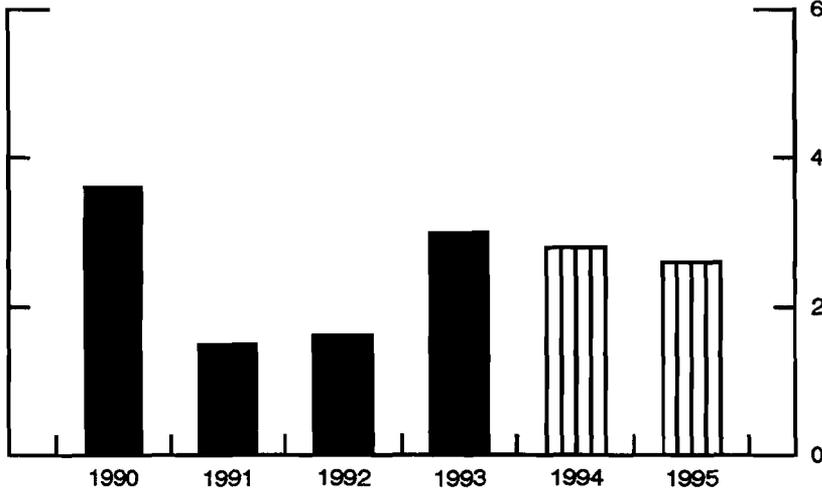
Percent of potential GDP



\*Excluding deposit insurance and contributions for Operation Desert Storm.

REAL STATE AND LOCAL PURCHASES

Percent change, Q4 to Q4



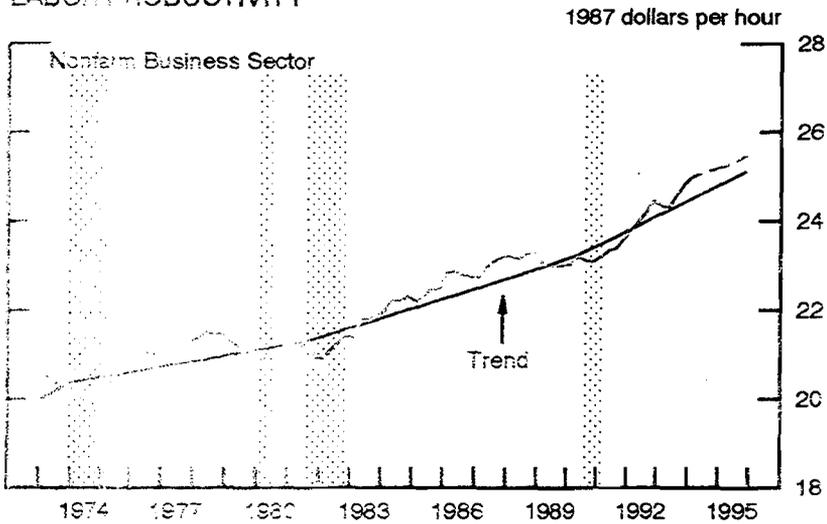
OPERATING DEFICIT

Billions of dollars	
1990	35.7
1991	51.2
1992	52.2
1993	56.5
1994	53.1
1995	45.9

Chart 7

# Labor Market

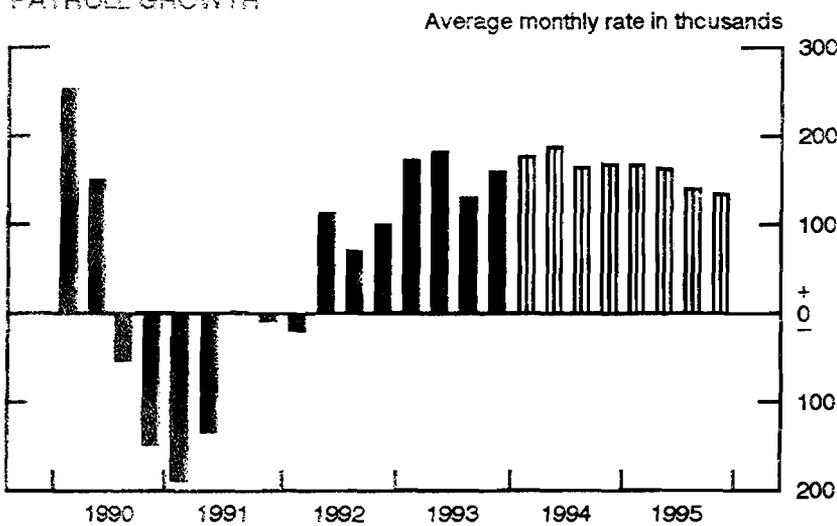
## LABOR PRODUCTIVITY



## PRODUCTIVITY GROWTH

Percent change, Q4 to Q4	
1990	.4
1991	2.2
1992	3.6
1993	1.6
1994	1.4
1995	1.2

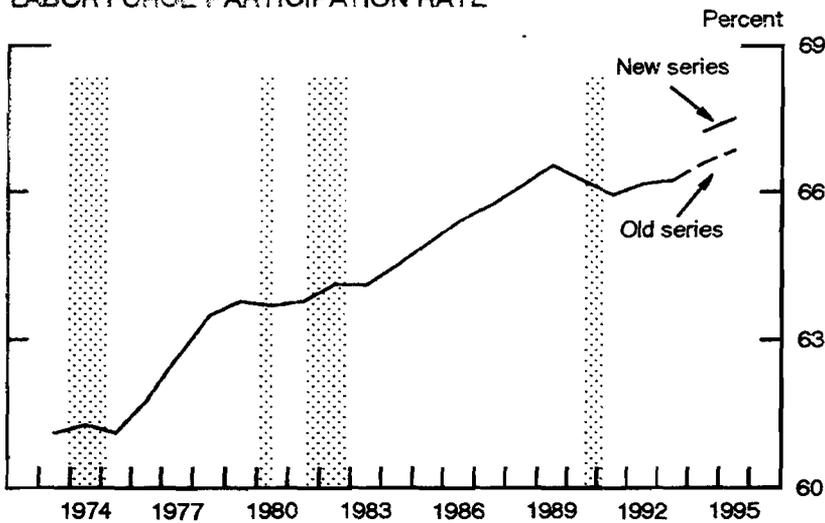
## PAYROLL GROWTH



## EMPLOYMENT

Percent change, Q4 to Q4		
	Payroll	HH
1990	.6	-.2
1991	-.9	-.6
1992	.7	1.0
1993	1.8	2.0
1994	1.9	2.9
1995	1.6	1.5

## LABOR FORCE PARTICIPATION RATE



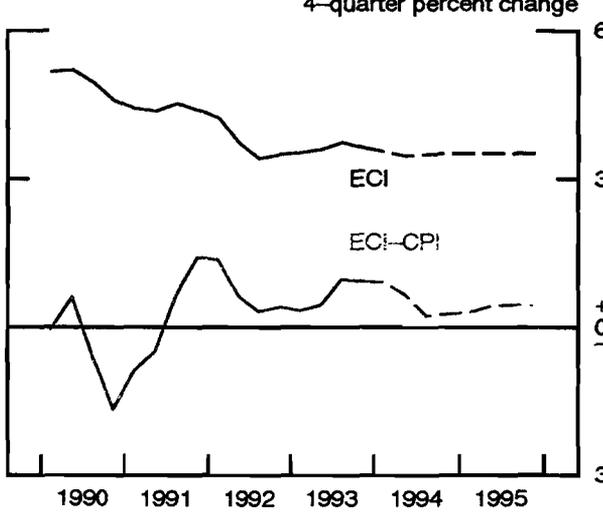
## LABOR FORCE GROWTH

Percent change, Q4 to Q4	
1990	.4
1991	.5
1992	1.3
1993	1.2
1994	3.2
1995	1.4

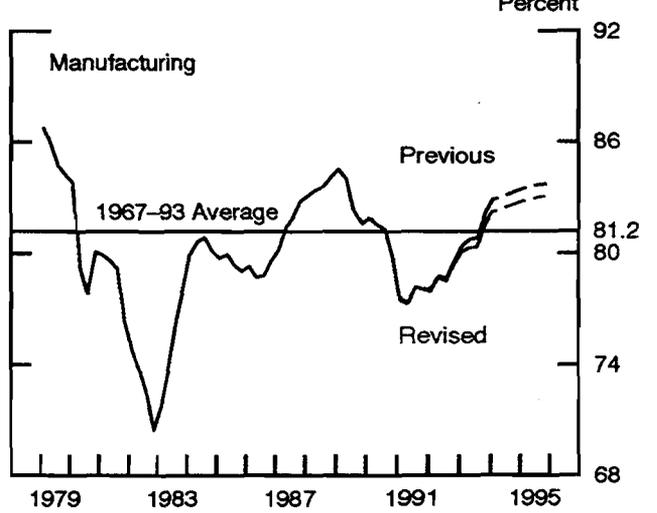
Chart 8

Inflation

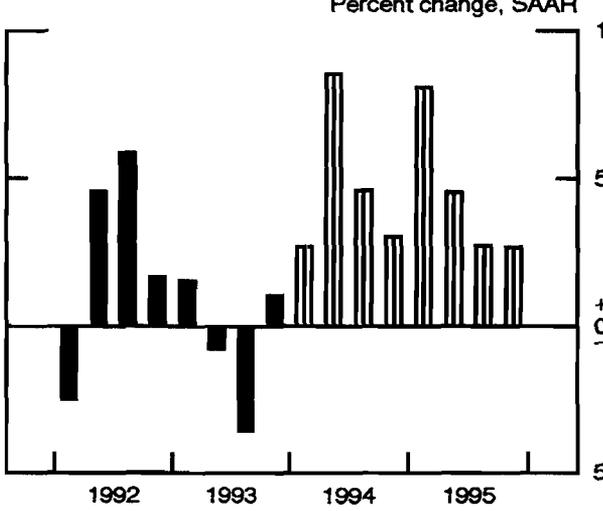
LABOR COSTS



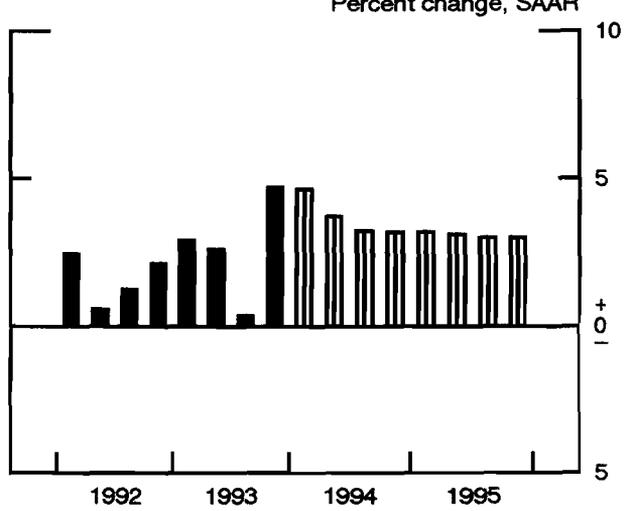
CAPACITY UTILIZATION



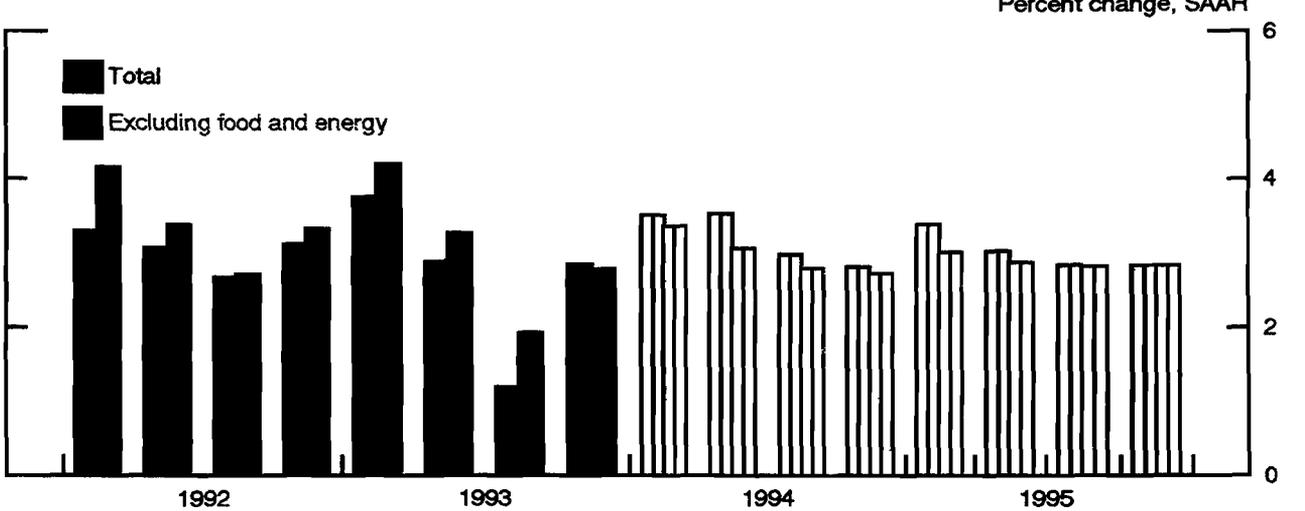
CPI ENERGY PRICES



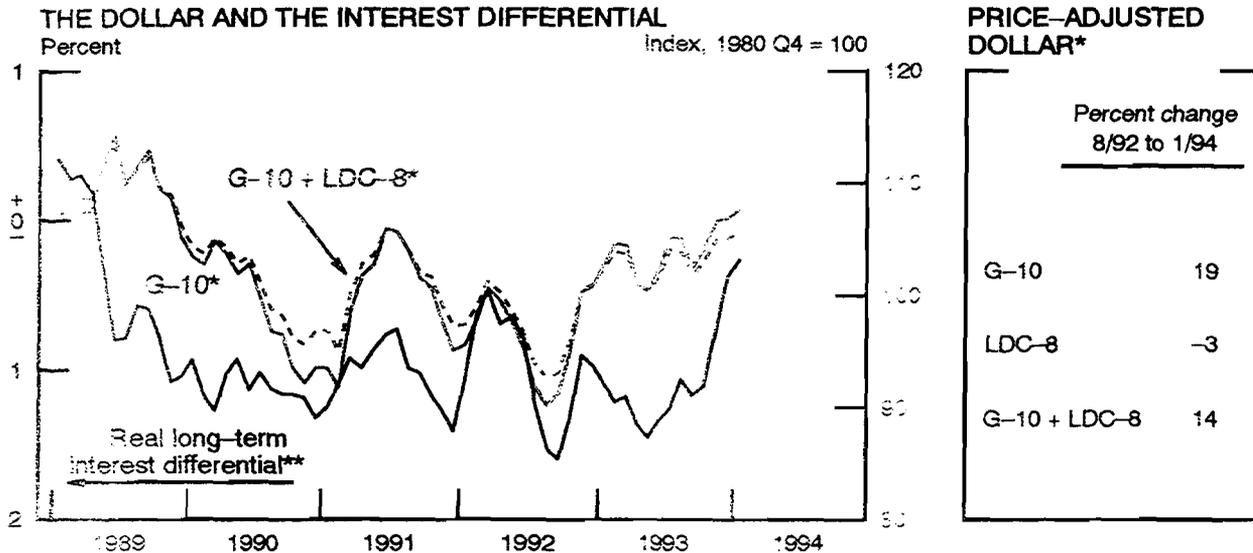
CPI FOOD PRICES



CPI INFLATION



### Exchange Rates and Interest Rates



\* Weighted averages against foreign countries using world trade shares, adjusted by relative prices.  
 \*\* Difference between rates on long-term U.S. government bonds and a weighted average of foreign G-10 long-term government or public authority bond rates, adjusted for expected inflation.

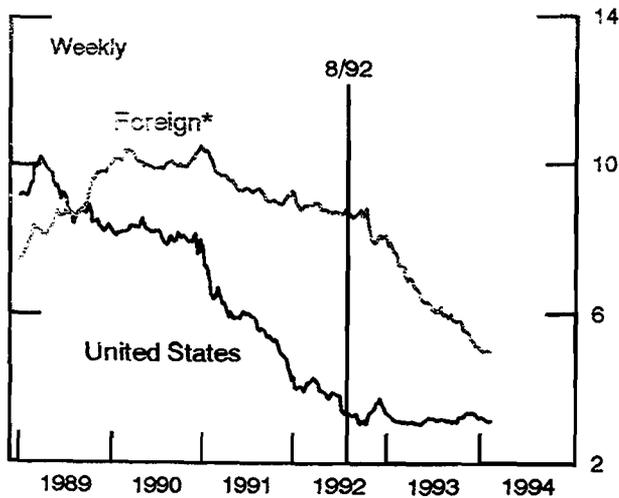
#### NOMINAL DOLLAR EXCHANGE RATES

	Percent change 8/92 to 2/2/94
Italian lira	54
Pound sterling	30
Deutschemmark	20
Canadian dollar	12
Yen	-14
<b>G-10 Average</b>	<b>18</b>

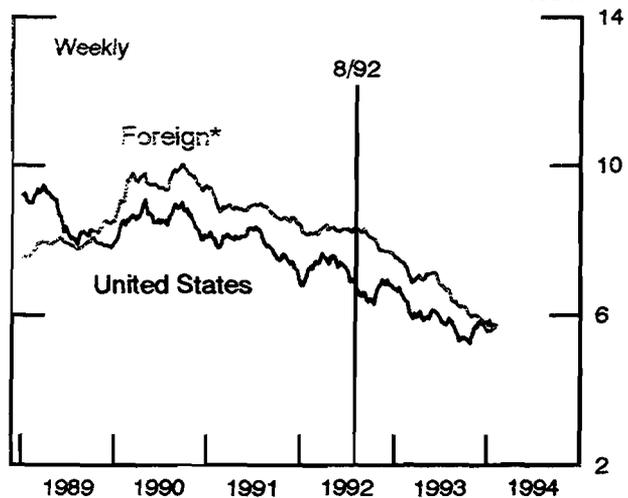
#### NOMINAL INTEREST RATES

	Level 2/2/94	Change 8/92 to 2/2/94
Three-month		
Germany	5.70	-4.09
Japan	2.20	-1.67
United States	3.18	-0.13
Ten-year		
Germany	5.71	-2.28
Japan	3.60	-1.42
United States	5.77	-0.82

#### THREE-MONTH INTEREST RATES

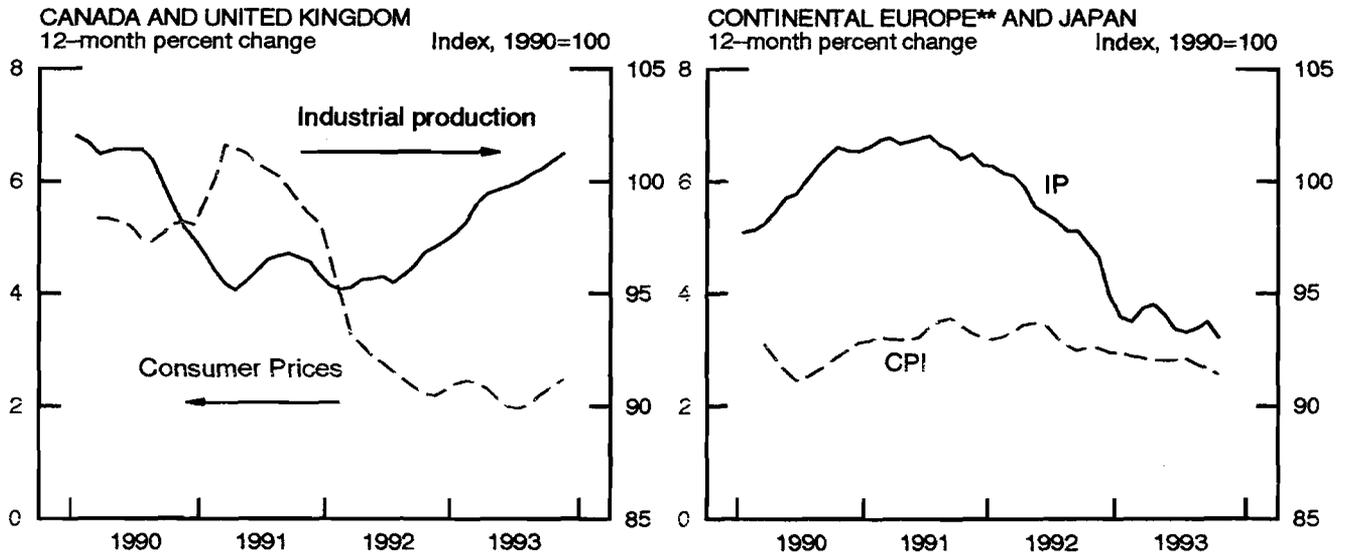


#### 10-YEAR INTEREST RATES

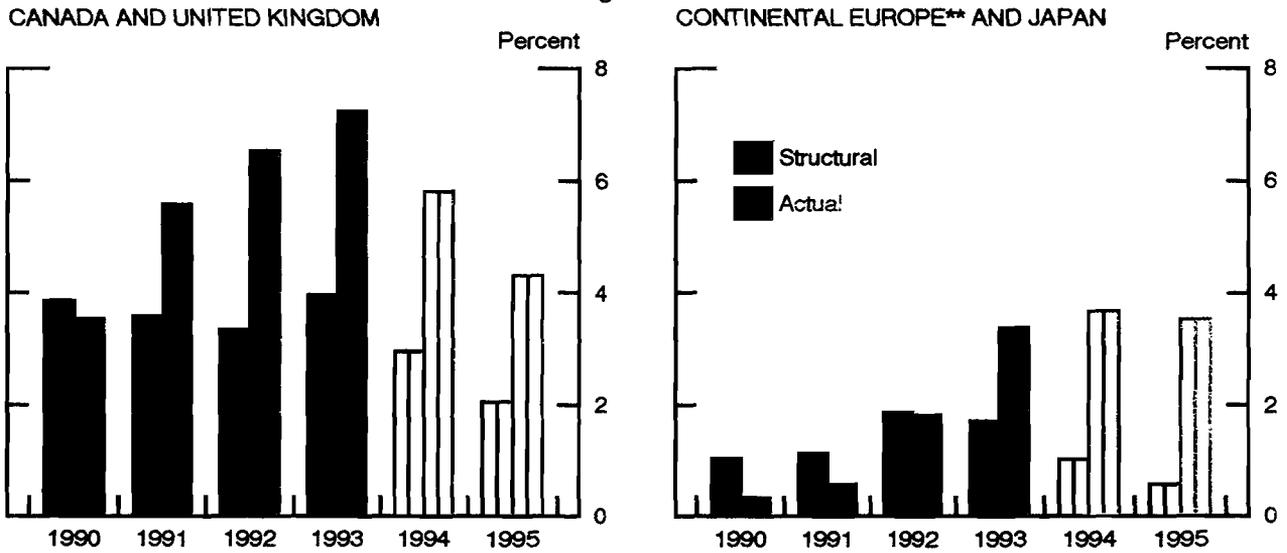


\* Multilateral trade-weighted average for foreign G-10 countries

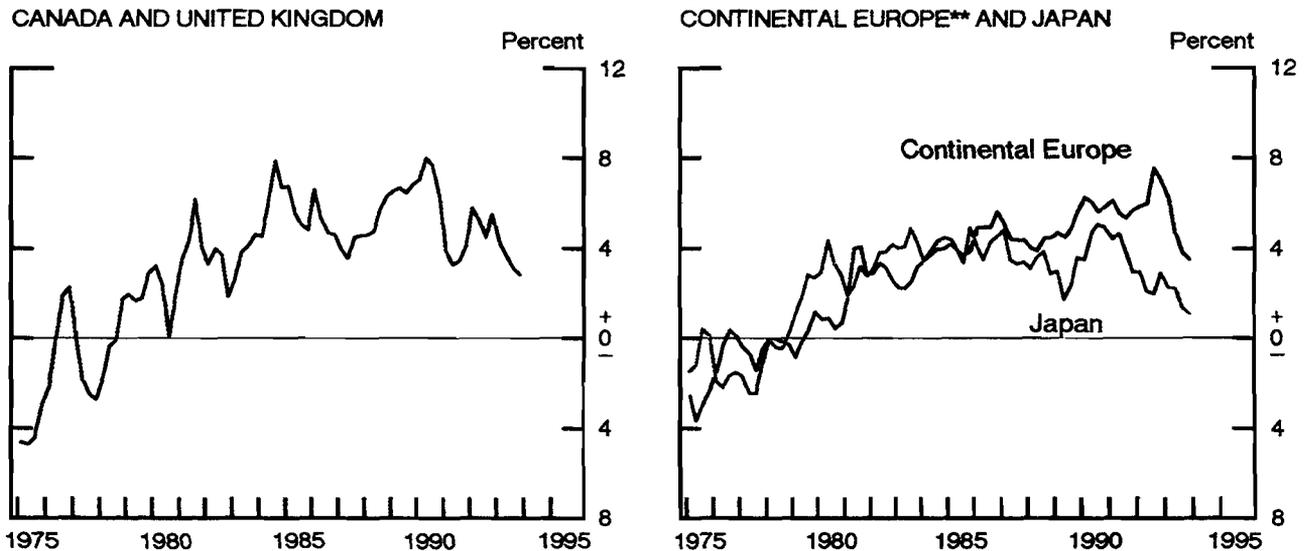
Industrial Production and Consumer Prices\*



Structural and Actual Budget Deficits as a Share of GDP



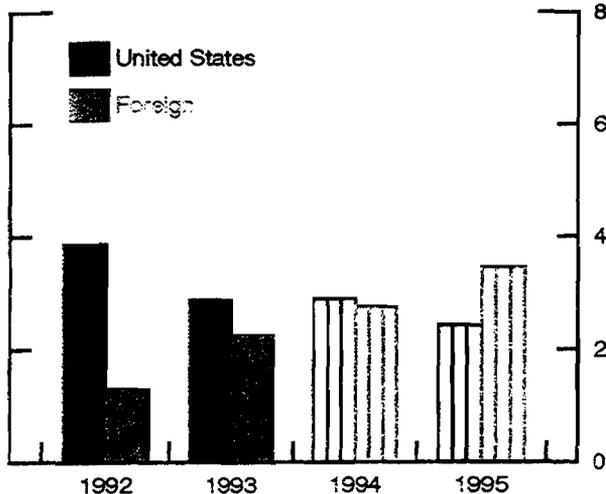
Real Short-Term Interest Rates



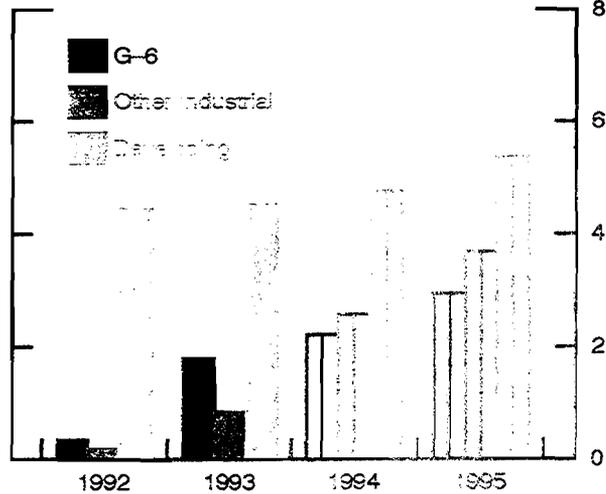
Note: Aggregation across countries is based on U.S. nonagricultural export weights.  
\*CPI excludes food and energy prices; U.K. index also excludes mortgage interest rates. The IP and CPI series are both 3-month moving averages.  
\*\*Germany, France, and Italy.

# Foreign Outlook

**REAL GDP: U.S. AND FOREIGN\***  
Percent change, Q4 to Q4



**FOREIGN REAL GDP\***  
Percent change, Q4 to Q4

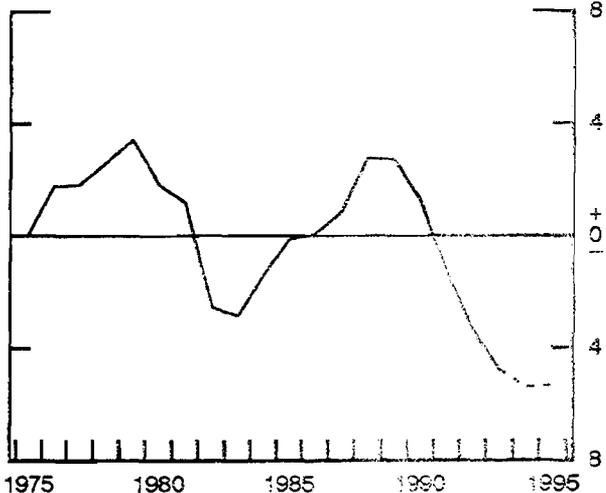


**FOREIGN GROWTH**

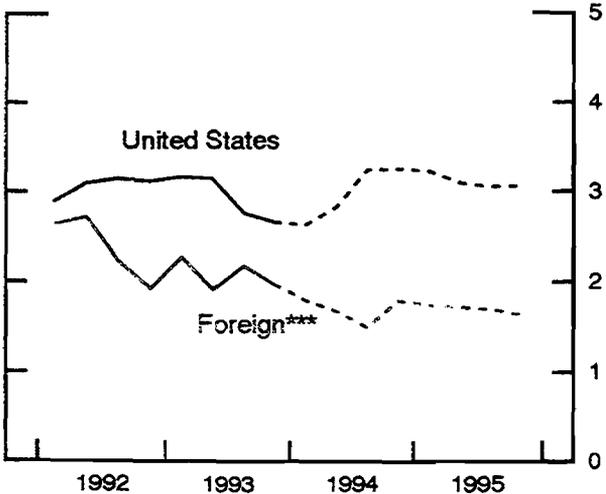
Percent change, Q4 to Q4

	1993	1994	1995
Canada + U.K.	2.9	3.0	3.3
Other G-6	0.2	1.1	2.5
Mexico	0.3	2.1	2.8
NIEs**	6.2	6.3	6.8
China	12.0	10.2	10.7

**G-6 OUTPUT GAP: DEVIATION FROM POTENTIAL GROWTH**  
Percent



**CONSUMER PRICES: G-7 COUNTRIES**  
4-quarter percent change



**CONSUMER PRICES**

Percent change, Q4 to Q4

	1993	1994	1995
Canada	1.8	1.9	1.9
U.K.****	2.7	3.1	3.3
Japan	1.2	1.0	0.8
Germany	3.7	2.7	2.1
France	2.1	1.9	1.7
Italy	4.1	3.5	2.8
G-6	2.0	1.8	1.6

\*G-6 countries, 16 other industrial and 9 developing countries, U.S. nonagricultural export weights.

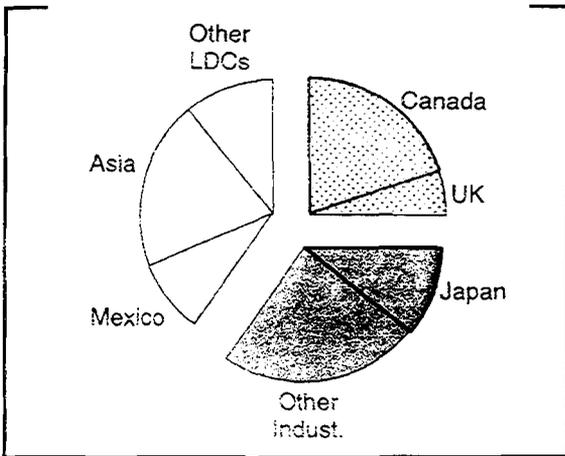
\*\*Hong-Kong, Singapore, South Korea, and Taiwan, U.S. nonagricultural export weights.

\*\*\*G-6 countries, U.S. non-oil import weights.

\*\*\*\*Excludes mortgage interest payments.

Exports

SHARES (1992)



SHARES (Percent)

	1972	1992	CHANGE (92-72)
1. Industrial	69	59	-10
2. Canada+UK	30	25	-5
3. Other	39	34	-5
4. LDCs	31	41	10
5. Mexico	4	9	5
6. Asia	13	21	8
7. Other	14	11	-3

GROWTH

Percent change, Q4 to Q4

	1992	1993*
1. Industrial	0	4
2. Canada+UK	5	18
3. Other	-3	-7
4. LDCs	15	3
5. Mexico	11	7
6. Asia	17	2
7. Other	14	2
8. Total	6	4

GROWTH IN REAL EXPORTS

Percent change, Q4 to Q4

	1993	1994	1995
1. Goods	4	6	9
2. Agricultural	-8	1	4
3. Computers	17	27	35
4. Other	3	3	3
5. Services	3	3	5

\*Estimate, based on October–November

REAL EXPORTS AND GDP

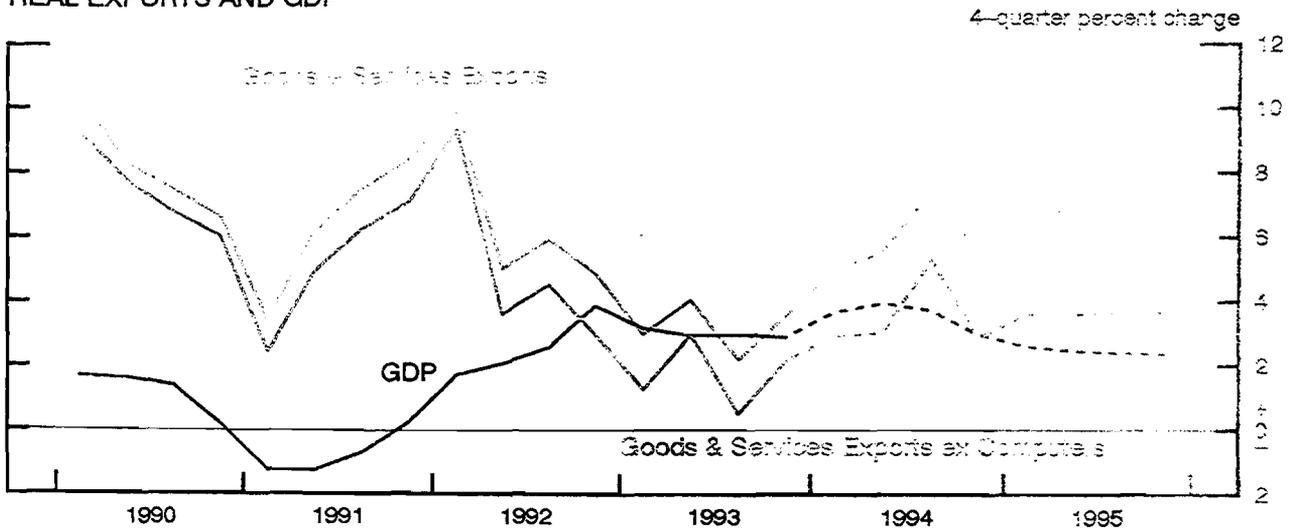
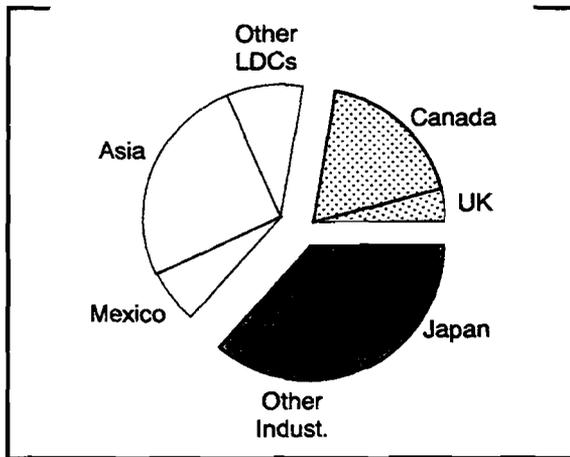


Chart 13

Imports

SHARES (1992)



GROWTH

Percent change, Q4 to Q4

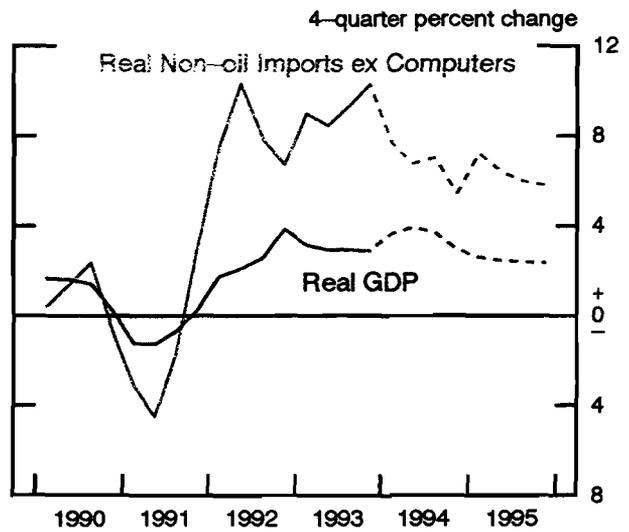
	1992	1993*
1. Industrial	11	11
2. Canada+UK	10	13
3. Other	11	9
4. LDCs	10	10
5. Mexico	11	28
6. Asia	11	11
7. Other	8	-1
8. Total	11	11

\*Estimate, based on October–November

GROWTH IN REAL IMPORTS

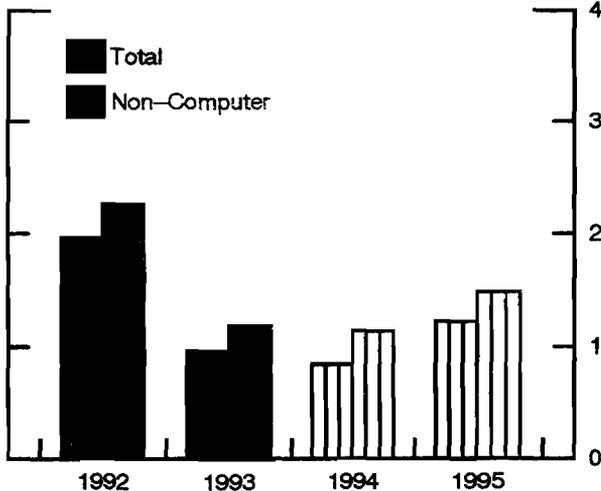
Percent change, Q4 to Q4

	1993	1994	1995
1. Goods	14	10	10
2. Oil	9	3	4
3. Computers	37	32	29
4. Other	10	7	6
5. Services	5	3	3



NON-OIL IMPORT PRICES

Percent change, Q4 to Q4



OIL PRICES

Dollars per barrel

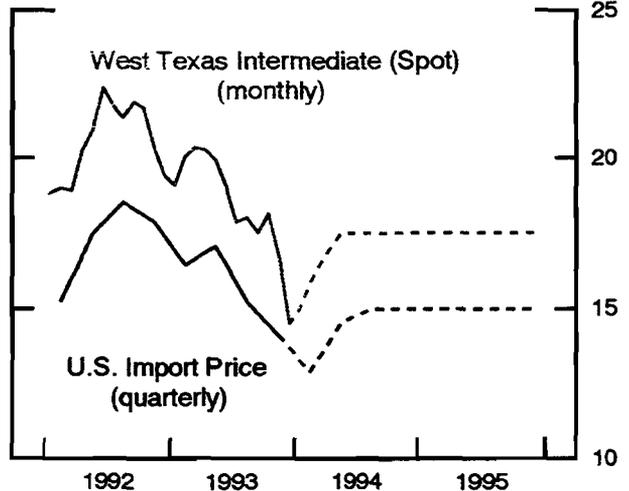
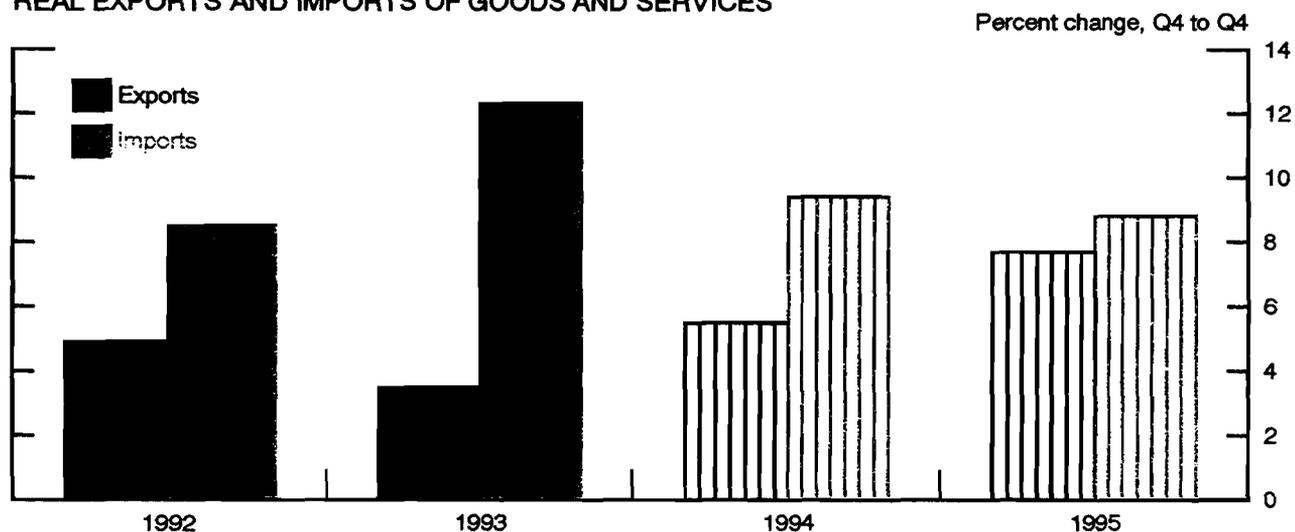


Chart 14

## Summary of the External Sector

## REAL EXPORTS AND IMPORTS OF GOODS AND SERVICES



## EXTERNAL BALANCE

Billions of dollars, Q4 levels, SAAR

	1993	1994	1995
1. Current account balance	-119	-149	-166
2. Goods	-141	-172	-191
3. Services	58	63	72
4. Investment income	-1	-5	-10
5. Transfers	-35	-35	-36
6. Real net exports of goods and services	-96	-128	-147
7. Level change (1987\$)	-57	-32	-19
8. Change as percent of GDP	-1	-2/3	-1/3

## CONTRIBUTION OF EXTERNAL FACTORS TO U.S. CPI INFLATION

Percentage points, Q4 to Q4

	1993	1994	1995
1. Relative price of oil imports	-0.4	-0.2	0.0
2. Relative price of non-oil imports	-0.2	-0.2	-0.2
3. Real net exports of goods and services	-0.2	-0.3	-0.4
4. Total contribution	-0.8	-0.7	-0.6

## Alternative Scenario

**Baseline:** Greenbook forecast.

**Alternative:** Foreign real GDP growth averages one percentage point above baseline.

Oil prices rise \$3 per barrel above baseline in 1994, and remain at higher level thereafter.

Federal funds rate unchanged from baseline.

## Percent change, Q4 to Q4

	<u>1994</u>	<u>1995</u>
U.S. Real GDP		
1. Baseline	3.0	2.4
2. Alternative	3.1	3.0
U.S. Consumer Prices		
3. Baseline	3.3	3.1
4. Alternative	3.7	3.8

**ECONOMIC PROJECTIONS FOR 1994**

	<b>FOMC</b>		
	Range	Central Tendency	Staff
	—————Percent change, Q4 to Q4—————		
Nominal GDP	$4\frac{3}{4}$ to $7\frac{1}{2}$	$5\frac{1}{4}$ to 7	5.4
Real GDP	$2\frac{1}{4}$ to $3\frac{3}{4}$	$2\frac{3}{4}$ to $3\frac{1}{2}$	3.0
CPI	$2\frac{1}{4}$ to 4	$2\frac{1}{2}$ to 3	3.3
	—————Average level, Q4, percent—————		
Unemployment rate	$6\frac{1}{2}$ to $6\frac{3}{4}$	$6\frac{1}{2}$ to $6\frac{3}{4}$	6.8

**ECONOMIC PROJECTIONS FOR 1995**

	<b>FOMC</b>		
	Range	Central Tendency	Staff
	—————Percent change, Q4 to Q4—————		
Nominal GDP	$4\frac{1}{4}$ to $6\frac{3}{4}$	$4\frac{3}{4}$ to $6\frac{1}{4}$	4.6
Real GDP	$2\frac{1}{4}$ to $3\frac{1}{2}$	$2\frac{1}{2}$ to 3	2.4
CPI	$1\frac{3}{4}$ to $4\frac{1}{2}$	$2\frac{1}{2}$ to $3\frac{1}{4}$	3.1
	—————Average level, Q4, percent—————		
Unemployment rate	$6\frac{1}{4}$ to $6\frac{3}{4}$	$6\frac{1}{4}$ to $6\frac{1}{2}$	6.8

NOTE: Central tendencies constructed by dropping top and bottom two from distribution, and rounding to nearest quarter percent.

February 4, 1994

Short-run policy  
Donald L. Kohn

The decision facing the Committee at this meeting with regard to its immediate policy options would seem to be whether a firming of reserve market conditions should occur now, or can be safely and appropriately put off. In the staff forecast, as Mike discussed, it is delayed until the second half of the year. Aggregate demand underlying that forecast is not so strong or the amount of slack so small that postponing the beginning of the rise in rates deflects the core inflation rate from a slight downward trend. A willingness to accept inflation at its current rate, rather than keeping it moving lower, would correspondingly further reduce the urgency for raising rates at this time.

The "wait and see" policy of alternative B also would allow the Committee to better assess the extent to which the recent strength in demand seems likely to persist in the new year--an evaluation a number of you thought important at the last Committee meeting, but one that is complicated in the near term by the effects of the quake and severe weather. Over the balance of the year, the economy may well slow considerably and inflation potential remain damped without Federal Reserve action, as tax increases take effect, key foreign economies founder, and additions to household stocks of durables and houses moderate. Moreover, the market has done some tightening on its own: the rise in long-term interest rates and exchange rates since last fall should damp demand in the quarters ahead. To be sure, these increases will tend to reverse, at least in real terms, if they are not validated at some point by rising short-term rates. Still, some

delay is not likely to have a major effect on the degree of restraint, especially if markets continue to expect the Federal Reserve to firm.

However, if the Committee desired a more definite downward tilt to inflation than in the staff forecast, or saw the risks on output, inflation, and inflation expectations as tilted to the up side, firming at this time would seem appropriate.

The proximity of the economy to its potential does increase the danger that even moderate unexpected strength in aggregate demand would feed through over time to an unacceptable increase in inflation pressures. In this situation, real short-term rates would seem quite low, and the Committee has already expressed its view that these rates must be raised at some point to contain inflation. Given the lags, tightening might need to begin fairly soon to avoid difficulties in 1995 and beyond. Both the Committee and the staff foresee a pickup in nominal GDP growth in 1994 relative to 1993. Leaning against this tendency might be seen as consistent with the Committee's longer-run objectives.

Tightening ahead of any deterioration in inflation expectations could have salutary effects on capital markets. Such expectations may not have picked up appreciably yet, at least judging from the most recent evidence in direct surveys of price expectations or in outside economists' forecasts of inflation, and the dollar has remained firm in foreign exchange markets. But there is some risk that they could if the Federal Reserve postponed its action very long, in light of recent data on activity and commodity prices. A sense that inaction was motivated by factors unrelated to the conduct of monetary policy would be especially damaging. An increase in the federal funds rate is widely anticipated--even if the dating is in question. Delay risks raising questions about our priorities and necessitating more

drastic action later. A modest rise in the federal funds rate would have small effects on the economy, but would remind the markets that the Fed is still on the job.

As usual, growth of money and credit is of only limited use in guiding the Committee's decision. Broad money growth remains weak- albeit not quite as weak as early last year. The staff has forecast growth of 2 percent on average in M2 over coming months and 1-1/4 percent in M3. Both aggregates would be in the lower halves of their provisional ranges. Borrowing by private sectors, on the other hand, strengthened significantly in the second half of the year, suggesting that the balance sheet constraints on borrowers and lenders have been ebbing rapidly. We expect growth in private debt to continue at this more rapid pace, but not to pick up significantly further.

February 4, 1994

Long-run Policies  
Donald L. Kohn

As background for the Committee's discussion of longer-run policy objectives that might be presented in the report to Congress, and of the annual ranges for money and credit, the staff presented in the bluebook a number of long-run scenarios for monetary policy. Given the limitations of economic forecasts in general, the projections obviously shouldn't be taken too seriously. But we think that the simulations may expand on the Greenbook forecast in ways that are useful in the context of your consideration of longer-range strategy.

The first set of simulations gives three possible strategies for policy in terms of the Committee's emphasis on moving to full employment or price stability. The results are found on the table on page 8 and the chart on the following page. One important point is evident from the chart--all three scenarios start from the premise that real short-term interest rates need to rise from current levels to prevent prices from accelerating. In the models, long-term interest rates and exchange rates are the key financial variables driving the economy, but short-term rates are the instrument through which the Federal Reserve influences these variables. The monetary policies associated with the strategies vary by when and how much short-term rates are raised.

You will note that the differences among the alternatives--in terms of the outcomes or the interest rates needed to get them--are not large. For the most part, this reflects the fact that the economy currently is not far from both full employment and price stability. The baseline strategy makes some progress toward full employment and price stability, but doesn't get to either objective. Full employment

can be achieved fairly promptly, however, by keeping the federal funds rate at the current level for only a little longer; alternatively, price stability can be approached by moving the funds rate up by the same amount as in the baseline, but sooner and less gradually. In the out years, policy in the latter two alternatives must be calibrated to avoid overshooting in one or the other direction. On one side, overstaying an accommodative policy could quickly push the economy past its potential and give an upward nudge to inflation; avoiding this possibility requires a fairly sharp rise in short-term rates beginning in 1995 in the easy strategy--to a level in nominal terms above that for the other two strategies. On the other side, an aggressive policy of pushing up nominal rates to approach price stability within the period of the simulation risks arriving at this ultimate objective with an unemployment rate that implies future deflation; avoiding this outcome dictates a drop in rates mid-way through the period in the tighter strategy.

Charts 2 and 3 look at the implications of some potential risks to the outlook. These exercises make two types of points. First, they show the importance of some key assumptions in shaping the staff projections. And second, they illustrate the difficulties for monetary policy caused by lags in the response of policy to changed circumstances and by lags in the response of the economy to policy actions. Chart 2 following page 10 addresses the possibility that the NAIRU is 1/2 percentage point higher or lower than assumed in the baseline. If it is higher, a possibility raised by recent compensation data, the economy is already operating beyond its potential. In this circumstance, even the rapid and pronounced tightening, shown by the dashed line, which is delayed a bit until the problem becomes apparent, can't avoid some small pickup in inflation in the near term.

If the natural rate is lower, as recently asserted by some, the dotted line, keeping policy on hold for a considerable period has no adverse consequences--in fact it allows attainment of both the lower unemployment and lower inflation possibilities implied by this favorable situation.

Chart 3 posits stronger and weaker aggregate demand in 1994 than in the staff forecast. In this case, in designing the scenarios, we assumed that evidence of the change in circumstances would be easier to detect, as indicators of demand continued to deviate from levels assumed in the baseline. Even so, the excess or shortfall in aggregate demand feeds through quickly to labor and product markets, whereas the influence of an alert and prompt monetary policy response is only felt some quarters later. Thus, even fairly rapid and robust responses do not avoid rising unemployment in the weak demand case or more rapid inflation in the strong demand case.

In constructing the money growth paths for each strategy, we took account of movements in both short-term and long-term rates, as well as the behavior of nominal spending. In addition, we assumed that some of the unusual intermediation patterns of recent years would persist--but that they would fade out over time as loan demands at depositories picked up and as savers became better adjusted to the availability of mutual funds and to their greater inherent riskiness relative to deposits.

These factors informed our projections of money and credit for 1994 and 1995, shown on page 13. We expect debt growth about in line with nominal GDP again in 1994. More comfortable balance sheets and greater credit availability lead to a pickup in borrowing by sectors other than governments. In the total, this is about offset by a drop in federal borrowing, owing to the effects of deficit reduction

measures and a stronger economy. A greater proportion of this credit is financed at depositories, reflecting both an increased willingness to lend and the strengthening of private credit demands. Moreover, depositories are assumed not to raise quite as much funds in bond and stock markets, given their already hefty capitalizations, and thus M3 growth is projected to pick up to 1-1/2 percent in 1994 and 2 percent in 1995. M2 growth also strengthens--to 2 percent this year, and 2-1/2 percent next--as flows to long-term mutual funds slow, in part reflecting a flatter yield curve and smaller capital gains than through much of 1993. The ebbing of the diversion to non-M2 assets is strong enough to offset the effect of an expected drop-off in mortgage refinancing this year and the more general influence of higher short-term rates assumed in the forecast. M2 and M3 velocities continue to advance, but by a bit less than in 1992 and 1993.

Against this background, page 16 lays out two alternative sets of annual ranges for money and debt for 1994. Alternative I consists of the provisional ranges from last July; these were set equal to the 1993 ranges, which, as you recall, were reduced at that time. With growth in the aggregates expected to be a little higher in 1994 than in 1993 under the staff forecast, there would seem to be no pressing rationale for reducing the ranges, assuming that something like the staff forecast for the economy is considered to be an acceptable outcome. Of all the provisional ranges, the one for M2 would seem to be most at risk, in the sense that the staff expectation for that aggregate consistent with its outlook for spending and interest rates is only one percentage point above the lower end of the range. A greater or earlier increase in short-term rates than assumed in the forecast conceivably could cause M2 to fall short of its alternative I range. On the other hand, the interest elasticity of the aggregate

has not been very large in recent years, and, moreover, if rising short-term rates are associated with some upward movement in long-term rates, appetites for capital market alternatives to M2 assets could be even more damped than we have assumed.

Nonetheless, alternative II would adjust the M2 range to center it better on the staff expectations, reducing the risk of shortfall in response to tighter reserve conditions. Because it would seem to allow for such actions, and implies less tolerance for a major acceleration in money growth, this range might be seen as more consistent with intentions to reduce inflation appreciably further in the next few years, as under the tighter strategy outlined earlier.

Alternative II also lowers the range for debt, an action the Committee could take even if it left the M2 and M3 ranges at their provisional levels. Growth of debt in the upper part of a 4 to 8 percent range seems high, especially if debt and GDP again tend to expand together, as they have in recent years; the Committee's nominal GDP forecast centers around 5-1/2 percent. The Committee might also be concerned about very rapid debt growth as symptomatic of over-exuberance in asset markets and a return to balance sheet leveraging, perhaps fueled by a pickup in inflation expectations. A drawback to lowering the debt range alone might be a tendency to draw too much attention to this variable, whose link to spending has not been that tight.

The downgrading of the monetary aggregates as guides to policy, for both the Committee and the public, has raised questions about whether there are ways we might better communicate intermediate-term policy objectives and strategies. Humphrey-Hawkins reports and testimonies have given a sense of the ultimate objectives of the Committee, the Committee members' projections for key economic variables

for the next year to year and a half. and the risks to the forecast. Of necessity, the discussion has been vague as to desired trajectories toward ultimate objectives and to how the Committee might respond to deviations from projections. When money velocities were reasonably predictable, target ranges for the aggregates perhaps gave a little better sense of the intermediate-term strategy of the Committee and its reaction to unexpected strength or weakness in spending that was reflected in growth of money relative to its ranges. A distinct advantage of aggregates for intermediate targets was that they did not force the Committee to specify its notions of short-run output/inflation tradeoffs or long-run characteristics of the real economy.

Members of Congress and their staffs have asked whether the Committee could supplement money ranges with other methods of explaining important intermediate-term considerations guiding the conduct of policy. One possibility is to stretch out the forecast period, and it was with this in mind that we asked for your 1995 projections.

A key aspect of projections two years out is that they probably can be viewed as representing to an important extent Committee members' desired outcomes, within the constraints imposed by the starting point and the structural relationships embedded in the economy. That is, the lags in policy effects are probably not so long that if the Committee viewed the outcomes as not the best available, it would still have time to take actions to improve the situation. Seen in this way, the projections do contain some information about the Committee's preferences and its view of the short-run tradeoffs. Your 1995 projections, for example, show no deceleration in inflation from 1994 coupled with some further decline in the unemployment rate to the neighborhood of 6-1/2 percent. This suggests that, on average, you share the staff's view of the level of the

NAIRU, and hence, absent a sharp weakening on aggregate demand in 1996, would not anticipate further disinflation. You also have lower unemployment rates associated with roughly the same levels of inflation as the staff, perhaps indicating a more favorable slope in the short-run Phillips curve than assumed with staff projections.

The risk in giving long-run projections is that Congress may focus on these as targets--especially on the real variables, such as the unemployment rate. These forecasts tend to highlight short-run tradeoffs without focussing on longer-term consequences of trying to exploit these tradeoffs. Without the discipline of an explicit price stability goal for the central bank, we could find ourselves under greater pressure on real variables over which our power is limited over a period of years, and for which we have no authority to set objectives. What was once an adjunct to the monetary ranges could become the centerpiece; indeed, we would be giving projections for a years in which we had no monetary targets. If the forecasts are used, the report and testimony ought to emphasize both that the FOMC does not control the level of growth of potential GDP and would welcome the lowest possible unemployment rate consistent with sustainable growth, and that an attempt to exploit short-term tradeoffs can be counterproductive.