

## APPENDIX

Notes for FOMC Meeting  
August 21, 1990  
Sam Y. Cross

Sentiment toward the dollar has turned decidedly negative since your last meeting with growing pessimism about the outlook both for the economy and for inflation. As a result, the dollar has come under fairly persistent downward pressure against most currencies, and in recent days has established new historic lows against the mark. On balance, the dollar is trading 5 to 7 percent lower against the mark and other European currencies, though only about 3 percent lower against the yen, than it was in early July.

Sentiment toward the dollar had already begun to turn negative around the time of your last meeting. You may recall, the dollar began to soften in late June-early July after President Bush raised the possibility of tax increases to reduce the budget deficit. The market was well aware of Administration pressure on the Fed to ease monetary policy, and believed that the Fed would act quickly to offset the contractionary impact of any fiscal tightening. With dollar interest rate differentials against both the mark and yen already very low, even negative in some cases--dealers believed investors would continue to diversify into non-dollar holdings.

Then after the last FOMC meeting, a number of developments made dollar investments seem even less attractive. First, market participants were taken unaware by the Chairman's comments on July 12 that the Federal Reserve was poised to offset a tightening in the credit markets and by the following day's 1/4 percentage point decline in the federal funds rate. Initially, the market's interpretation of these developments was negative for the dollar--seeing it as increased Fed willingness to tolerate inflation in order to counter further

economic slowdown--although some of that concern was moderated by the Chairman's subsequent Humphrey-Hawkins testimony.

Sentiment toward the dollar received another setback following the release of data in late July/August which raised concerns both about the softness of the economy and the persistence of inflationary pressures. The report on second-quarter GNP released on July 27 was followed by a period of dollar weakness. Then, on August 3, the July employment report was seen as evidence that the pace of economic growth had slowed dramatically. These signs of weakness were seen in the exchange market as consistent with the mid-July decline in the federal funds rate, and prompted expectations of further easing of U.S. monetary policy in the near future.

Attitudes toward the economy and the dollar soured further because of the increasingly large estimates of the cost of the savings and loan bailout and the related rising projections of the fiscal 1991 budget deficit. As the period progressed, hopes for avoiding a Gramm-Rudman sequester faded. But given the worsening news about the economy, fading prospects of a budget agreement did not reverse expectations of a decline in dollar interest rates. Instead, it was viewed as evidence that political leaders were still not committed to addressing U.S. fiscal and financial problems.

The dollar's decline showed through most clearly against the European currencies. Developments peculiar to Japan cushioned the dollar/yen exchange rate from the full effects of the change in investor sentiment. In mid-July, the Japanese stock markets came under renewed strong selling pressures, following rumors of a new political scandal, and in an environment of growing expectations of

further tightening by the Bank of Japan. Once the declines in Japanese stock prices got underway, market participants were reminded of the situation earlier in the year when policy-makers appeared stymied by the fragility of the domestic financial markets. In addition, the rise in oil prices reinforced inflationary concerns in Japan and added to selling pressures in the Japanese bond and stock markets. Against this background, the yen resumed its decline against all major currencies other than the dollar.

Following the Iraqi invasion of Kuwait on August 1, the dollar initially strengthened as dealers bid aggressively, anticipating increased transactions demand and safe-haven demand for the U.S. currency. The dollar immediately rose by as much as 4 percent against the yen, and by a lesser amount against the other currencies, although it just as quickly gave up much of its gains. Thereafter, the dollar on occasion received some support on rumors of heightened tensions in the Persian Gulf, but the support tended to diminish as the period progressed. Safe-haven considerations seemed to have a much bigger impact on gold and on the Swiss franc than on the dollar.

Instead, the dollar once again began a slow but steady decline as market participants focused on the implications for the U.S. economy of a sharp rise in oil prices. There was concern that, unlike the robust economies of Germany and other European countries, the U.S. economy would be unable to withstand the policy tightening necessary to counter the effects of higher oil prices. Also, many were wondering whether the Fed might feel compelled to accept a

relatively high rate of inflation in order to prevent recession. As a result, during the final two weeks of the period, the dollar continued to move lower against the major currencies, declining through post-WWII lows against the mark and reaching 9-year lows against several other European currencies.

Late last week, the market's reaction to the U.S. June merchandise trade report provided another example of the market's negative bias toward the dollar. Despite an impressive narrowing of the trade deficit, dealers continued to sell dollars, either ignoring the report or interpreting the lower deficit simply as further evidence of an economic slowdown.

The dollar's decline over the past several weeks, while persistent, has not been sharp or erratic. There has been no serious consideration of market intervention as yet, and the market does not seem to expect any. But in the present rather precarious circumstances, there is the risk that developments could quite suddenly bring on a very difficult and even dangerous exchange market situation which could also disrupt other financial markets.

Mr. Chairman, since the last FOMC meeting, the Desk has not intervened to influence the exchange rate, but as reported earlier has undertaken certain transactions on behalf of the U.S. Treasury to adjust ESF balances. Since the last FOMC meeting, the Desk has acquired a total of \$427.4 million against marks in the market and also exchanged \$1 billion equivalent of marks for dollars directly with the Bundesbank. Then on July 20, the ESF reversed \$2 billion of the \$9 billion of outstanding warehousing with the Federal Reserve,

using dollars acquired over the past several months through these transactions. The transactions have not yet been publicly reported or explicitly identified, although the financial effect has been reflected in releases regularly issued by the Treasury, the Federal Reserve and the Bundesbank. We plan to report the transactions in the Federal Reserve Bank of New York's next quarterly foreign exchange report, which will be released on September 7.

In a separate program, the Treasury has also been exchanging ESF holdings of SDRs for dollars. The SDRs are sold to IMF member nations who require SDRs to pay Fund charges. Since July 12, a total of SDR 290.7 million, equivalent to \$407.8 million, have been sold, out of a total sales of 500 million SDRs contemplated.

In other operations, the Bank of Mexico on July 5 and 31 made payments totaling \$736.4 million on a \$1.3 billion facility established with the Federal Reserve and Treasury in late March. The latter payment effectively closed the facility. The Central Bank of Honduras on July 5 and August 1 made payments totaling \$43.3 million on a \$82.3 million special swap facility established with the U.S. Treasury to enable that country to clear its arrears with international financial institutions. The National Bank of Hungary, on July 16, drew \$80 million in its second drawing on a multilateral financing facility; the U.S. Treasury's share amounted to \$8.9 million. On August 1, Hungary made principal payments totaling \$42.5 million, \$4.8 million of which was credited to the U.S. Treasury. The Bank of Guyana on July 31 made a principal repayment of \$102.6 million on a multilateral facility, of which \$18.3 million was credited to the U.S. Treasury.

NOTES FOR FOMC MEETING

AUGUST 21, 1990

PETER D. STERNLIGHT

Domestic Desk operations since the last meeting of the Committee in early July were conducted against a sometimes turbulent background that overshadowed the small adjustment in reserve pressures undertaken in mid-July. The turbulence stemmed chiefly from markets roiled by Iraq's takeover of Kuwait and subsequent political and military reactions around the world, given the concerns over oil supplies and inflation generally. Added anxieties stemmed from uncertainties about Congressional action on the debt ceiling, as a major Treasury financing approached. Unsettlement of a different kind developed in the final week of the period due to an extended power outage in the New York financial district that impeded New York Fed operations and had widespread effects on many other market participants.

For about the first week of the period, the Desk sought to maintain reserve pressures of about the same degree that prevailed through the first six months of this year, associated with an expected Federal funds rate in the neighborhood of 8 1/4 percent. On July 13, in response to indications that a greater degree of restraint had developed in the financial system than had been anticipated or was deemed appropriate, the Desk moved to a slightly more accommodative reserve stance. The borrowing allowance was pared by \$50 million to \$400 million and it was anticipated that funds would trade around 8 percent. The borrowing allowance was subsequently raised in two \$50 million

steps to \$500 million, as technical adjustments to keep pace with the rise in seasonal borrowing, while leaving the expected funds rate at 8 percent.

The Desk's July 13 move was ingested quickly by the market and funds moved down to trade around 8 percent or a shade over from mid-July through early August. During last week, funds traded a little above the expected range, primarily due to uncertainties and distortions growing out of the New York power outage, and also to some extent due to the Treasury's large refunding settlement on August 15. Nonetheless, market participants continued to anticipate an equilibrium rate in the 8 percent area, and by yesterday trading was predominantly back at that rate.

Actual borrowing levels were fairly close to path on a statement period average basis, being made up largely of seasonal borrowing. Adjustment borrowing was very low most of the time, although it bulged on the July 25 reserve period settlement date and also rose last week when power problems disrupted computers and communication links. For the whole period, through the past weekend, adjustment credit averaged about \$100 million and seasonal borrowing about \$400 million.

The Desk faced moderate reserve needs throughout the period which were met through buying about \$1.5 billion of bills from foreign accounts and a combination of System and customer repurchase agreements. Needs were enlarged by virtue of the



Treasury's unwinding of a \$2 billion warehousing of D-marks with the Fed on July 20. For a time following the July 13 move to a slightly easier degree of reserve pressure, the Desk exercised special caution in meeting ongoing reserve needs to ensure that the market did not jump to conclude that greater than intended easing was under way. Market participants were keenly alert to the possibility of further moves, especially as some weaker economic data were published and the Treasury's mid-quarter financing approached. A further complicating factor was the market's heightened skittishness following the Middle East eruption.

Last week, Desk operations were affected somewhat by the power outages in New York. We sought to provide reserves a bit more generously, although repeated reserve shortfalls partly frustrated our efforts. Also, because of potential constraints on our ability to process a heavy volume of activity we set a larger minimum transaction size for our repurchase agreements and temporarily discontinued the lending of securities. On one occasion, the System Account accommodated foreign central bank demand by selling a few bills outright rather than burden the funds and securities networks with additional transactions late in the day. On the whole, it can be said that the contingency back-up plans worked well and at no point did we feel that the essential thrust of System Open Market operations was being compromised.

Markets were pulled in different directions during the intermeeting period, with the net result a significant steepening of the yield curve. At the short end, yields on Treasury bills and other money market instruments maturing within a year fell by about 15-25 basis points. The decline in the perceived expected Federal funds rate from 8 1/4 to 8 percent in mid-July was the main influence here, with some added downward pressure at times when weak reports on the economy made it appear likely that policy could ease further. Bills and perhaps other money market paper also enjoyed some flight-to-quality demand in the turbulent markets following the invasion of Kuwait.

The decline in short-term rates occurred despite heavy demands on the bill market. Net cash raised in that sector during the period was about \$33 billion, including some \$14 billion of cash management bills. In yesterday's auctions the Treasury sold its 3- and 6-month issues at 7.55 and 7.45 percent, respectively, down from 7.73 and 7.60 percent just before the last meeting.

At the same time, longer term rates pushed sharply higher. The main factor here was the inflationary concerns growing out of events in the Middle East, but even before those developments investors were becoming more jittery over inflation. The System's move to reduce reserve pressures in mid-July caused some observers to question the central bank's resolve to combat inflation. These commentators recognized that the economy was sluggish but they did not see significant evidence of greater

weakness than had been observable in other recent months. Moreover there was suspicion about succumbing to Administration pressure or perhaps premature acquiescence to a policy move in connection with a budget deficit reduction package. Economic reports coming out after mid-July tended to put the System's July action in a better light--notably the report on GNP for the second quarter and the revisions for earlier quarters, the Purchasing Managers report for July, and the weak July employment numbers. These reports even brought anticipations of further easing--although the employment report, coinciding as it did with the news from Kuwait, led to mixed expectations of both greater economic weakness and stronger inflation. Further complicating and heightening the market's reactions to news from the Middle East was the fact that a major Treasury financing was about to be undertaken, calling on dealers and investors to absorb record-sized additions to supply and with a shortened period of trading because of delays in the debt-ceiling legislation. Not only that, but the prospects for curbing the Treasury's future appetite looked shakier as events seemed to cloud the outlook for deficit reduction negotiations. A final straw was that overseas interest in the Treasury's offerings looked dimmer as rates had been rising significantly in foreign markets.

In the turbulent days of early August, the Treasury sold its new issues, but only after sharp upward yield adjustments and some considerable anxiety. Over the full period, Treasury yields

in the 10-year area rose about 40 basis points and 30-year issues about 55 basis points. This puts the yield on the new 30-year bond at about 8.95 percent. Yields on 30-year bonds had pushed just above 9 percent last spring in the wake of heightened inflationary concerns after the bad first quarter price numbers, but the yield had come down to around 8.35 percent at the start of August, amid sluggish reports on the economy, some abatement of the inflation numbers, and apparently improved prospects for a deficit reduction given the Administration's willingness to talk about taxes. Including the nearly \$14 billion raised in the quarterly refunding, the Treasury borrowed about \$20 billion in the coupon market during the intermeeting period. In addition, Refcorp borrowed \$5 billion through a 30-year issue early in the period, which elicited much better interest than their earlier 40-year offerings.

Whether in bills or coupons, the relentless pace of Treasury borrowing shows little prospect of abating. The current fiscal year deficit is pushing to the \$220 billion area, and one begins to hear private sector estimates for the next fiscal year--assuming a soft economy, large thrift bail-out costs, and absent a deficit reduction package--approaching \$300 billion.

Market sentiment on near-term monetary policy prospects has tended to ebb and flow with information on the economy, and evaluations of the Middle East situation and budget deficit reduction possibilities. As recently as a few weeks ago, the

preponderance of information emphasizing the weakness of the economy, and some fair prospect of budget action, tilted sentiment rather clearly toward anticipations of an easier policy early on. The combination of Middle East events, dimmed hopes on the budget, and evidence of greater inflationary force even before the Iraqi invasion, has now left most observers looking for no immediate policy change. Still, the view remains that the economy is quite soft and that somewhere further down the road an easing is in store.

Finally, I should mention that once again there has been a decline in the ranks of primary dealers. The Bank of New York relinquished its primary dealer role earlier this month after an extended period of disappointing profitability. This was the fourth firm to drop out this year, following four that dropped in 1989. In the meantime, three firms were added in that 20 month period, so the net decline was five, from 46 to 41. Of the eight that have dropped out since the start of 1989, half were foreign owned and half were domestic. All three new entrants are foreign owned. Of the present 41 dealers, we consider 15 to be foreign-owned, including 8 Japanese. The dropouts have resulted essentially from the poor profit experience of recent years. For the dealer group as a whole the first several months of this year showed better results than a year earlier--though still not an attractive long run return on capital.

David J. Stockton  
August 21, 1990

### FOMC BRIEFING

As you know, the economic outlook for activity and inflation has been altered by the steep rise in oil prices that has occurred since early July. However, the uncertainties associated with developments in the Middle East are so large that, at this point, any economic projection should be taken only with an even larger-than-usual grain of salt. Our strategy in the Greenbook was to take a reasonable scenario for the evolution of oil prices as a conditioning assumption for the projection. But, the Greenbook projection is only one reasonable scenario among many.

This morning, I'll lay out the rationale underlying the baseline Greenbook projection. Ted then will discuss some of the international implications of recent events and present some model-based results that highlight the sensitivity of the outlook to some of the key assumptions that we have made.

However, before dealing with the tremendous uncertainties surrounding the question of where the economy may be headed, I would like to touch on the merely significant uncertainties associated with assessing where the economy has been. A considerable amount of information has become available since the July FOMC meeting, and, on the whole, this information appears supportive of our view that activity has been expanding gradually, but with no abatement of inflation.

Let me begin with a bit of ancient history and comment briefly on the downward adjustment to the growth in real GNP in 1989 that was

reported in the annual revisions. One question raised by the revisions is whether monetary policy has been exerting greater restraint on aggregate demand than we previously realized. While there is no absolutely clear cut answer to this question, it is of interest to note that the downward revision occurred in consumption of services, most notably medical services--not an area of spending normally thought of as interest sensitive.

A second question raised by the revisions is whether the lower estimated growth of the economy implies that we are facing less inflation pressures, than we previously thought. The answer would appear to be no. Broad measures of inflation and the unemployment rate were not affected by the revision. As a consequence, the data suggest that both actual and potential output have been growing at a slower pace--implying no greater slack exists. In our view, it appears that the economy must grow a little more slowly than we had previously thought to generate the same amount of slack in labor markets.

The most recent readings on the labor market suggest that activity is, in fact, growing at less than its potential rate. Private payroll employment dropped 45,000 in July. Employment as measured by the household survey also dropped last month and the unemployment rate rose 1/4 percentage point to 5-1/2 percent. Other evidence, however, suggests that a major contraction in labor demand is not underway. Aggregate hours worked in July were 1-1/2 percent at an annual rate above their second-quarter average. And, initial claims for unemployment insurance have been virtually flat since the turn of the

year, giving no hint that layoffs are becoming deeper or more widespread.

A similar picture of slow growth emerges from the industrial sector. The index of industrial production has been buffeted by monthly swings in motor vehicle production and the output of utilities. Abstracting from these factors, production has been rising at about a 2 percent pace since late last year. Industrial materials prices have had a firmer tone of late, and although they may have been boosted in part by the drop in the foreign exchange value of the dollar, these activity-sensitive prices are not pointing to any significant weakening in the industrial sector.

Turning to the spending indicators, the BEA's advance estimate of real GNP, at 1-1/4 percent for the second quarter, was quite close to the June Greenbook estimate. However, in contrast to our June projection, the BEA showed a sharp drop in final sales offset by considerable stockbuilding. The data we have received in recent weeks now make it appear that real GNP is likely to be revised up--perhaps on the order of 1/2 percentage point--with a more favorable mix.

Although retail sales posted only a small rise in July, substantial upward revisions to May and June suggest that spending in the second quarter was not so weak as previously had been suggested and that consumer outlays are entering the current quarter on a slight uptrend. Ted will discuss later the recent trade figures, but those data also point to stronger final sales than estimated earlier.



In contrast, inventory investment now looks considerably weaker than had been assumed by the BEA. Stock-to-sales ratios in most sectors ended the second quarter at or below levels seen earlier in the year.

Elsewhere, incoming information on spending seems to have extended recent trends. Orders for nondefense capital goods remained sluggish through June and point to a continuation of the sideways trend in equipment outlays that has been evident for some time now. Housing starts moved lower in July. And although nonresidential construction activity apparently spurted in June, advance indicators remain negative.

The news on inflation has been disappointing, even apart from the large increases in energy prices that already are underway. The July CPI, which we received after the Greenbook was published, showed an increase of 0.4 percent, after increasing 0.5 percent in June. The CPI excluding food and energy was up about 1/2 percent in both months. These increases are especially troubling in light of the steep rise that occurred earlier in the year. In particular, discounting of apparel prices failed to materialize to any appreciable extent after the sharp price runups this spring. And service price inflation has remained on a distinct uptrend. On balance, the CPI ex food and energy increased at close to a 6 percent annual rate over the first seven months of the year.

Labor cost measures also have provided little encouragement that inflation pressures are easing. Over the twelve months ended in June, the employment cost index for hourly compensation increased 5-1/4 percent, 3/4 percentage point above the increase in the preceding year. This acceleration is consistent with the view that the labor market has

been tight over the past year. At this point, information on the current quarter is limited to average hourly earnings for July, which increased 0.6 percent.

All told, the information that has become available over the past seven weeks suggests that activity has been expanding at a slow rate. And, apart from any consideration of higher oil prices, real growth seems to have been poised to proceed in the second half of the year at a pace comparable to that over the first half. Meanwhile, inflation was not likely to have departed from recent trends. It is this view of the economy that served as the point of departure for our Greenbook forecast and for the assessment of the economic consequences of the increases in oil prices.

As you know, crude oil prices had begun to rise even prior to the Iraqi invasion of Kuwait, as it became clear that the major OPEC players would reach an agreement to scale back production. In the wake of the invasion, spot prices for West Texas Intermediate crude oil jumped up and have been fluctuating in about a \$25 to \$30 per barrel range. Our scenario calls for the price of West Texas Intermediate to average around \$26.50 through year-end, with an associated average import price reaching \$25 per barrel in the fourth quarter--about \$8 above our June forecast. Such a path would be consistent with the loss of roughly 4-1/4 million barrels per day from Iraq and Kuwait relative to production rates in June and July and an offset from other OPEC producers of 2-1/4 million barrels per day.

The forecast assumes a resolution to the current turmoil by early next year. At that time, oil production is assumed to move up to

the levels targeted in the July OPEC accord. Thus, by mid-year 1991, crude oil prices fall to roughly \$3 per barrel above our June forecast.

One could hypothesize much less favorable circumstances, but even under those we have assumed in the Greenbook the Committee would be confronted with considerably less favorable sets of outcomes with respect to output and inflation. We conditioned our projection on the assumption that interest rates and the foreign exchange value of the dollar remain near current levels. In our view, under this assumption even our optimistic oil price pattern would lead to both relatively high inflation and very slow growth of output over the next few quarters.

The oil price disturbance also complicates the fiscal policy picture. Budget summit talks had stalled even before the invasion, and the turmoil in the Middle East cannot be a positive factor. At this point, we are inclined to stick with our \$35 billion deficit reduction package for fiscal year 1991. But our unease may have shifted from feeling a shade too pessimistic, to feeling perhaps a bit too optimistic about the outcome of the negotiations. For fiscal year 1992, we have assumed an additional \$35 billion in deficit reduction actions.

The direct effects of the jump in oil prices are expected to show up quickly in the prices of gasoline and fuel oil. Indeed, available survey evidence suggests that more than half of the rise in crude oil costs had been passed through at the pump by mid-August. By September, we expect the bulk of the direct effects to be complete, having added roughly 1/2 percent to the level of the CPI. The indirect effects on prices of goods and services that use energy as an input and on competing energy products are likely to begin immediately and extend,

with waning influence, into early next year. All told, the rise in the CPI is expected to average close to 6 percent in the second half of the year.

On the spending side, we have assumed that households and businesses are as uncertain about the outlook for oil prices as we are. We expect that households will curtail their real consumption in the second half, but not quite by the full extent of the erosion in their real incomes. And, facing the prospect of weaker sales and confronted with greater uncertainty, businesses seem likely to trim or defer capital outlays over the next several quarters. Moreover, efforts to hold inventories in check, in light of expectations of softening sales, are expected to exert a modest drag on output later this year. Construction activity drops further in the second half, but less in reaction to higher energy prices than in response to the overhang of unsold homes, high vacancy rates, and continuing problems of credit availability. The only bright spot seems to be the likelihood of a small lift to oil drilling activity.

The greater near-term weakness that is contemplated in this forecast pushes up the unemployment rate more rapidly late this year and early next year than in our previous projection. We now anticipate a rise in the unemployment rate to around 6 percent by the end of this year, rather than by the middle of 1991.

Given our baseline assumption that oil prices begin to move lower by early next year, some of the depressing effects on demand and activity begin to unwind. Declines in energy prices add to real incomes and allow some rebound in consumer spending. And, with inventory

accumulation having been brought quickly into line with weaker sales, stockbuilding provides no further impediment to growth in production. Later in 1991, the acceleration of output encourages some recovery in business equipment spending. Exports continue to provide a healthy boost to domestic activity throughout the projection period, but some of the growth in domestic demands in 1991 takes the form of increased imports from abroad.

In addition, the slump in real estate markets and problems of credit availability are assumed to begin to ease somewhat next year, leading to a very mild recovery in housing starts. However, nonresidential construction activity continues its contraction. With growth in output projected to move back close to its potential late next year, the unemployment rate stabilizes at a bit above 6 percent.

The inflation outlook is appreciably worse in the near-term than we projected in June, owing for the most part to the rise in energy prices. But the residual effect of the oil price shock on inflation diminishes over the projection period. In part, this reflects the effects of the partial reversal of the energy price increases. However, the rapid rise in the unemployment rate in the second half of this year also acts to limit the persistence of the energy price shock by holding down nominal wage demands.

The behavior of wages will be an important determinant of the persistence of inflation resulting from the oil shock. If workers attempt to resist the reduction in real wages that is made necessary by an increase in the price of imported oil by raising their nominal wage demands, the momentum imparted to inflation by the oil shock will be

greater. If, on the other hand, workers immediately acquiesce to the reduction in real incomes brought on by the oil shock, the inflation consequences could be limited to a one-shot jump in the price level associated with the rise in petroleum prices.

In our projection, we have assumed that the rise in energy prices does have an adverse effect on nominal wage demands, though we have not assumed workers are successful in offsetting all of the higher prices in wages, in part because of the margin of slack that emerges in labor markets. With the unemployment rate remaining at a bit above 6 percent, gradual reductions in inflation occur in late 1991 and in 1992. However, the starting point for this progress is a notch higher than we had assumed in the June Greenbook.

Ted now will continue our presentation.

E.M. Truman  
August 21, 1990

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FOMC Presentation -- International Developments

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The staff outlook for the external sector of the economy has been affected by five principal developments since the July FOMC meeting:

First, as has been described by Dave, are the changes in the outlook for the U.S. economy largely as a consequence of the higher oil prices. The lower growth of real income over the next few quarters tends to depress imports. Although in our forecast the growth of imports picks up next year, the lower level of economic activity continues to hold down imports.

Second, most of the 4-1/2 percent decline of the dollar on average against the other G-10 currencies over the intermeeting period has been incorporated into our forecast; everything else equal, this tends to boost inflation as well as the contribution of real net exports to U.S. growth over the forecast period.

Third, we received the merchandise trade data for May, and they were remarkably close to our expectations; only agricultural exports were slightly weaker than what we had implicitly incorporated in our last forecast.

Fourth, last Friday, after the August Greenbook forecast was completed, we received the preliminary merchandise trade results for June. These data on the whole were better than we expected. Accordingly, we estimate that real net exports of

goods and services in the GNP accounts for the second quarter will be revised up by \$9 to \$10 billion.

The quantity and price of imports of crude petroleum and products in June were lower than we had anticipated. On the quantity side, it is likely that some of the shortfall of imports in June relative to our expectations will be made up in the data for July. The average price in June was \$14.64 per barrel. We estimate that it rose about one dollar in July, and by a further four dollars in August to about \$19.50. As Dave described earlier, we are assuming that oil import prices will rise further and average \$25 per barrel in the fourth quarter before turning down next year. At \$25 per barrel, the cost of our oil imports will be about \$75 billion at an annual rate in the fourth quarter of this year, compared with less than \$50 billion in the second quarter.

The biggest surprise in the June data was in the area of nonagricultural exports. We expected the pickup in shipments of large aircraft and the rebound in exports of computers and accessories. The unexpected elements were substantial increases in exports of other capital goods and consumer goods. Exports of consumer goods have increased by 20 percent over the past year. We would be inclined at this point to accept the June data as confirmation of the strong underlying trend in nonagricultural exports, and not to raise that trend further. In the Greenbook forecast, the growth of real nonagricultural merchandise exports over the next six quarters is a bit more than 10 percent at an annual rate.



The effects of higher oil prices on economic activity, prices, and policies in the foreign industrial countries are the fifth and final development that has affected our outlook for the external sector of the U.S. economy since the last forecast.

With respect to output abroad, absent the increase in oil prices, our outlook would have been for somewhat lower growth in the second half of this year than we had earlier expected, largely as a consequence of new information suggesting slower growth in Europe -- on the continent as well as in the United Kingdom. In addition, oil prices are higher. Our rule of thumb is that growth on average in the foreign industrial countries would be reduced by about 1/3 of a percentage point over a year as a consequence of an increase in oil prices by \$5 per barrel. The smaller effect than in the United States reflects the lower oil and energy intensiveness of output in other major industrial countries.

Largely for the same reason, our rule of thumb is that a five dollar increase in oil prices will increase inflation abroad in the first year by about 2/3 of a percentage point -- somewhat less than for the U. S. economy. In our forecast, we have raised inflation on average over the next four quarters, but the appreciation against the dollar of these countries' currencies over the past seven weeks provides a partial offset.

With respect to policy abroad, we do not have any rules of thumb. Moreover, we are faced not only with uncertainty about the size and persistence of the rise in oil prices but also with uncertainty about the effects on the economies of the foreign

industrial countries of the increases in nominal interest rates that have taken place over the past six quarters -- increases on average of about 300 basis points since the fourth quarter of 1988.

This second factor is relevant to our interpretation of policies in connection with the 1973 and 1979 oil shocks. Our sense is that differences in policy responses were largely a function of differences in conditions of the individual economies at the time.

Against this background, we have reached the following tentative judgments:

In Japan, with its high real growth and its capacity and inflation concerns, we expect policy will be relatively nonaccommodative. Short-term interest rates, which have already risen more than 60 basis points since the middle of June, are likely to rise by another 25 basis points or so by the end of this year.

In Germany, capacity constraints are probably as tight as in Japan, but inflation is not rising, the growth of M3 is subdued, and the political situation implies that policy-induced increases in interest rates will not be well received. Consequently, we expect the Bundesbank to lean against the additional inflation induced by higher oil prices, but not as vigorously as the Bank of Japan. Short-term interest rates have not been pushed up by policy recently. They are expected to rise by about 50 basis points in the first half of 1991, but this increase is smaller than what we assumed in our June forecast,

and it is largely caused by the macroeconomic consequences of German unification, not higher oil prices per se.

In the other major European countries, France and Italy, capacity pressures are not as intense, and growth prospects are not as robust. We would, therefore, expect these countries to follow more accommodative policies if EMS considerations permit.

The United Kingdom and Canada are countries where inflation is a problem, but economic activity is clearly weak, and they are net oil exporters. Our judgment is that the authorities of these countries would be reluctant to respond aggressively in the short run to higher oil prices.

Pulling together these various developments, we are continuing to project strong growth of real nonagricultural exports. The rate of expansion is slowed in the near term by the effects of higher oil prices on growth abroad. However, the effects of the lower dollar kick in by the middle of next year to push up such exports more rapidly than in the June forecast. Meanwhile, non-oil imports are held down in real terms over the next several quarters by slower domestic demand and, later in the forecast period, by the lower dollar. On balance, real net exports of goods and services are a more positive factor in each quarter of our current forecast than in the previous forecast. The nominal trade and current account deficits widen over the balance of 1990 because of the rise in oil prices. However, given our assumption about oil prices, the deficits narrow substantially in 1991 and early 1992. The current account

deficit averages about \$60 billion in 1992 while the trade deficit averages about \$85 billion.

In the handout that you have just received, we have summarized and extended through 1993 the two forecast scenarios presented in the Greenbook, and we have provided a variation on the second scenario that incorporates a different assumption about monetary policy.

In extending the baseline, we retained the assumption that U.S. nominal short-term interest rates will be essentially unchanged through 1993, though rates are assumed to edge off a bit in 1993. The foreign exchange value of the dollar is unchanged throughout. Oil prices, after declining through the middle of 1991, are assumed to be roughly constant in real terms thereafter, rising to \$22.75 per barrel in the fourth quarter of 1993.

Real GNP, while depressed in 1990 and 1991, expands at about the rate of its potential in 1992 and 1993. With the decline of oil prices in 1991, consumer price inflation declines sharply in 1991 to about 4-1/2 percent; it remains at that rate in 1992 before edging off further in 1993. Excluding food and energy, the decline in the CPI is more gradual.

In the alternative oil price scenario, the price of oil imports remains at \$25 per barrel through 1993. However, the difference between this price path and that underlying the baseline narrows after the middle of 1991.

The estimated additional impact of this alternative scenario on the growth of real GNP in 1991 is about 1/3 of a

percentage point, but further effects on growth in 1992 and 1993 are estimated to be negligible. Overall consumer price inflation does not decline as much in 1991 as in the baseline scenario because the temporary benefit from the drop in oil prices is absent. As in the baseline, the decline in the CPI excluding food and energy is more gradual.

Growth of M2 -- the bottom panel -- is essentially the same in the alternative as in the baseline. This reflects the fact that in our model changes in oil prices have essentially a neutral effect on nominal GNP.

Finally, the table presents a variation on the alternative oil price scenario in which the price of imported oil remains at \$25 per barrel and monetary policy is targeted on the path of real GNP that would have prevailed under the oil price assumption that was used in the June Greenbook forecast. The third line in the top panel of the table presents the path for real GNP that was used in the model simulation. To achieve that path, the federal funds rate was reduced by 50 basis points in the third quarter of 1990 relative to the Greenbook assumption. By the fourth quarter of 1991, half of that reduction is eliminated, and it is entirely eliminated by the end of 1992.

Compared with the alternative scenario, with the real GNP target, consumer price inflation, including or excluding food and energy, is only slightly greater in 1990 and 1991, but a gap opens up in 1992 and 1993. However, given our oil price assumptions, the downward inflation trajectory is maintained, albeit from a higher starting point, because of the slack that is

introduced into the economy in 1990 and 1991 in the underlying projection.

Mr. Chairman, that concludes our report.

# **Alternative Forecast Scenarios**

August 21, 1990

## Alternative Forecast Scenarios

**Baseline:** Greenbook forecast extended through 1993, with essentially unchanged nominal short-term interest rates and an unchanged value of the dollar.

**Alternative Oil Price Scenario:** Price of oil imports remains at \$25 per barrel through 1993. Monetary policy assumption same as in Baseline.

**Real GNP Target:** Price of oil imports remains at \$25 per barrel. Monetary policy targets the real GNP path that would have prevailed with the oil price assumption in the June Greenbook.

Percent change, Q4 to Q4	1990	1991	1992	1993
<b>Real GNP</b>				
Baseline	1.1	2.0	2.4	2.5
Alternative	1.1	1.7	2.4	2.5
Real GNP Target	1.3	2.3	2.4	2.5
<b>Consumer Prices</b>				
Baseline	5.8	4.4	4.4	4.2
Alternative	5.8	5.0	4.4	4.0
Real GNP Target	5.9	5.1	4.6	4.4
<b>CPI excluding Food and Energy</b>				
Baseline	5.3	4.8	4.5	4.3
Alternative	5.3	5.0	4.6	4.1
Real GNP Target	5.4	5.2	4.8	4.5
<b>M2</b>				
Baseline	4.0	4.5	5.0	6.0
Alternative	4.0	4.6	4.8	6.1
Real GNP Target	4.3	5.6	4.8	6.4



August 17, 1990

**FOMC BRIEFING**  
Donald L. Kohn

Like the other briefers this morning, I will be devoting at least part of my remarks to the implications of the oil price increases. My focus will be less on broad consequences of alternative scenarios for oil and monetary policy, and more on the difficulties of choosing a policy and implementing it under these circumstances.

In the staff forecast, outlined by Dave and Ted, the oil shock under either oil price assumption is taken about half in GNP prices and half in reduced output. This is achieved following the same monetary policy as would have been followed without the oil price increase. That policy is one in which the federal funds rate is assumed to be flat, just below the level assumed for the June Greenbook, and money growth on a path just above the one thought likely in June.

As a number of members have remarked, this result, or something shaded to one or another side of it, may be a reasonable outcome, given the choices facing the economy and the FOMC. The problem facing the FOMC in implementing policy over coming months and quarters is that the situation is not likely to work out this neatly. The results in the forecast are a product of assumptions not only about the shock but also about the particular values assigned to a whole host of relationships in the economy; these produced the approximate equality between upward price effects and downward output adjustments in response to the assumed oil price increase. Especially when these relationships involve responses to an infrequent phenomenon, such as a supply shock, their specification is

subject to great uncertainty. In these circumstances, the chances of policy mistakes, leading to unintended output shortfalls or accelerations in prices are amplified.

The bluebook noted some attractiveness to paying attention to a path for nominal GNP in the presence of a supply shock. A given path for nominal GNP when prices are going one way and quantities another enforces a discipline of taking equal deviations from a baseline in both prices and output. Focusing on nominal GNP imparts a self-correcting aspect to policy--that is, it limits the possibility of cumulating shortfalls in output or sustained accelerations in inflation. A tendency, for example, toward cumulating weakness in the economy would depress nominal GNP, both directly itself and indirectly by holding down prices, spurring an easier monetary policy. A limit on the ease would be reached if it began to produce such a sharp turnaround in prices that nominal GNP started to overshoot its mark, eliciting an automatic tightening of policy. In short, nominal GNP objectives, if they can be pursued successfully, protect against the possibility of major policy miscalculations, which might be especially important in situations of unusual uncertainties in the economic outlook.

The Committee has chosen over the years not to specify a target for nominal GNP, despite some academic urgings to do so. There are a number of reasons for this, but one is the desire not to be accountable for an objective that is difficult to achieve. We don't know what nominal GNP is until after the period is over--often over for a considerable

time--and the relationships between policy instruments of interest rates or reserves and nominal GNP are loose at best.

Of course, these relationships are loose for any objective the Committee might wish to pursue. In practice, when deciding on its stance in open market operations, the Committee has looked at a wide variety of indicators, encompassing incoming data on the economy and prices, money and credit, auction market prices, et al. It is an error-prone process in the most normal of times, and a supply shock only compounds the problems by changing many of the relationships among these variables. Often policy moves have been made by deducing the course of the economy from the direct observation of price and output data. As Dave and Ted have emphasized, the supply shock implies both more inflation in the short run and lower output. As a consequence, data suggesting a particular level of economic activity will be associated with a higher path for prices and nominal spending than in the absence of a supply shock, and comparable adjustments will need to be made for expectations about output and spending associated with particular price data.

This situation does imply the need for restraint in responding to data that previously might have provoked a policy adjustment. A somewhat lower path for output and reduction in real income is a necessary consequence of the adverse movement in our terms of trade and decline in potential output. In the short or intermediate run, the path for output might have to dip even lower if there is a danger of a flare up of inflationary expectations that would have to be reversed later through even greater

restraint on the economy. On the other side, it may be necessary to tolerate a spike in prices if it can be seen not to have lasting consequences because a margin of slack in resource utilization is developing at the same time.

The relationship between money or nominal interest rates and ultimate outcomes is also subject to considerable uncertainty. The felicitous property of the staff forecast, that a given monetary policy--specified using either M2 or the federal funds rate--would yield the same nominal GNP both before and after the oil shock, was a property of the particular quantitative specifications assumed. If the supply shock instead were to produce larger increases in prices than decreases in output, policy would have to be tightened relative to baseline to get the same result for nominal GNP. Similarly, if there were in fact a bigger hit to output than bulge in prices, policy might have to be eased to get the same nominal spending, with higher money growth and lower interest rates than in the baseline.

Indeed, it may be particularly difficult to determine the association of nominal interest rates with spending and prices in the context of a supply shock. Judging which nominal interest rate is most likely to further policy objectives requires knowledge both of inflation expectations--so that real rates may be determined--and of the correct real rate to produce the desired level of spending. Both of these variables are likely to be greatly affected, and by unknowable amounts, by the oil price movements. Choosing the wrong nominal interest rate and moving

too slowly in changing it over an extended period raise the odds on cumulative economic weakness or accelerating inflation.

In circumstances of unusual uncertainty about the relationship of interest rates to income, the conventional prescription for monetary policy has been to pay more attention to money supplies. To be sure, money supply growth has not been tied particularly closely to nominal GNP in recent years. The wide variations in velocity, however, have occurred in the context of a monetary policy that has moved interest rates largely in anticipation of economic and price developments. The concern at this time would be that it will be much more difficult to "stay ahead of the curve" when the shape of the curve will be hard to determine. If policy tends to lag events, that delay would tend to be reflected in stronger or weaker money supply growth as spending accelerates or decelerates. Attention to the money supply would not avoid variations in nominal GNP, given the considerable interest elasticity to money demand, but it could limit some of the most egregious swings.

However, increased reliance on monetary indicators requires that their movements relative to income and interest rates be relatively predictable. The "unexplained" movements in monetary aggregates was a topic of considerable discussion in July. There was a tendency at that meeting to interpret the miss in M2 relative to expectations as a signal that perhaps policy had been more restrictive than had been thought. Since that meeting downward revisions to GNP for past quarters have trimmed the size of the miss relative to our standard money demand equations by a full percentage point. However, even after the revisions, there remains a

substantial shortfall in the quantity of money in the second quarter relative to historical relations among money, income and opportunity costs. And GNP growth in the second quarter, when the mysterious slowdown in money occurred, does not now seem to have come in much different than had been expected. That raises the possibility of a shift in asset preferences, or a downward shift in money demand. Ordinarily, slow money growth that occurred for this reason should be discounted in policymaking--that is, it would not be reflective of restraint on the economy and would have little import for future spending. In the current situation, one might want to be more careful in discounting the full extent of the money shortfall. Some of it could well reflect an underlying disruption to the intermediation process that is not embodied in the opportunity cost variables included in our equations but will show up in future GNP. Thus, it is likely that the slow growth in M2 relative to income reflects both some monetary restraint and some rearrangement of asset portfolios without much macroeconomic effect. While uncertainties on the nonfinancial side would seem to reinforce the Committee's recent additional emphasis on money and credit data in making policy, fresh questions about the stability of money demand tend to weaken arguments for giving it even more prominence in guiding open market operations.

Even the signals of the forward-looking indicators in auction markets are not immune from disruption. For example, a heightened preference for safety and liquidity can distort yield curves, commodity prices, and exchange rates. And those prices embody the guesses of investors about the reactions of the policy authorities here and abroad as well

as about the effects of the oil price increase. This suggests that these too need to be interpreted with particular care as we go through the period ahead.

The Committee will need to continue its eclectic policy, but perhaps with some modifications over coming quarters, should the supply shock persist. Relationships previously relied on for guiding policy will be disturbed, but by unknown amounts. Consequently, the room for error is higher, especially since short-term nominal interest rates inevitably will remain at the center of policy implementation. In these circumstances, fairly prompt changes in policy stance may be called for if the situation clearly begins to unfold in ways that were not anticipated. Although strict nominal GNP targeting is not possible, some attention not only to price and output data separately, but also to their interaction may be useful in avoiding cumulative policy errors when supply shocks send prices one way and quantities another.

None of this offers particular guidance for the decision today. That requires some sense of the situation coming into the oil shock, and also a judgment about the risks of leaning one or another direction in the face of the disturbance. As Dave explained, the greenbook forecast was predicated on a judgment that the economy was on a trajectory that encompassed continued slow expansion, but also price pressures that had shown no signs of abatement. That forecast included a flat pattern of interest rates into the future, and slightly faster money growth over the next few months than we have seen on average since the first quarter, and faster than we expected at the last meeting. Some of this strengthening in money

reflects a lagged reaction to the narrowing of opportunity costs since short-term rates peaked in April, and some a flight toward M2 assets in the wake of the turmoil in bond and stock markets. Additional growth for the latter reason, of course, might be a sign of weakness, not of strength, in the economy. Even with the stronger demand for M2, its growth is projected to remain substantially below that consistent with what would be expected from standard money demand models using greenbook spending and interest rates.

Credit conditions and their effect on spending continue to be a major uncertainty in the outlook. The greenbook projection does incorporate restraint from an ongoing constriction of credit supplies. Our senior loan officer survey seemed to confirm that a tightening of credit conditions had in fact been continuing at least through the date of the survey in early August. Banks reported greater selectivity in making loans, and they had raised rates on loans relative to benchmark rates and had tightened nonprice terms, including collateral requirements, loan size, and loan covenants. The results can not be parsed with any confidence between a natural response to deteriorating credit quality, and a tighter leash on supply for borrowers of a given credit quality. Weaker economic conditions and concerns about credit quality were cited most frequently as reasons for tightening, but banks also mentioned capital standards and regulatory pressure. To some extent, these results can be seen as confirming the sense of a deterioration that underlay the easing of reserve conditions in July. Whether they go further is difficult to evaluate. Credit flow data do suggest some drop off in July. Business,



consumer, and real estate lending at banks all were relatively weak last month, and show no signs of significant strength in early August. But this is a pattern that was evident early this year, and borrowing by private nonfinancial sectors continued to about keep pace with income growth through June, the last month for which we have estimates. Lenders likely are even more cautious than they were earlier this year, especially for marginal borrowers who are more vulnerable to a prolonged period of slow growth, and this caution may have increased further with the uncertainties over the effects of the oil price increase. Investment grade borrowers, on the other hand, seem to continue to find funds available. Although banks reported some tightening of terms to large borrowers, spreads in credit markets for investment grade issues remain narrow.

A view that credit conditions were tightening beyond that allowed for by the previous easing in reserve conditions and might contribute to, and feed on, an economy that was already deteriorating might argue for consideration of an additional easing move at this meeting--or at least a leaning in that direction in the language governing intermeeting adjustments. Such an action need not contribute to a longer-run worsening of the inflation situation, even after the oil shock, though to avoid this consequence it should not prevent some weakening in economic activity relative to the economy's now lower potential.

Any policy move also would need to be considered in light of the sensitive state of market expectations, however, with implications for the course of output and inflation over time. In the wake of the oil shock, the Federal Reserve's next policy action is likely to be scrutinized

especially carefully for signals about how the Committee assesses the risks and weighs the outcomes in terms of leaning against the price or output consequences of the oil price increase. The market already seems to anticipate both lower output--as seen in the stock market decline--and higher inflation--as reflected in part in movements of the dollar, bonds and gold. At the same time markets do not now appear to expect a near-term monetary policy move. Volatile markets and sensitive expectations, along with uncertainty about both the extent and duration of the oil price increase and the response to it of spending and wage and price developments, might argue for a cautious approach to any monetary policy moves, at least initially, perhaps implying some bias toward no immediate change in policy.

Such an approach should not be allowed to paralyze policy over time, however. Indeed, as was noted earlier, the greater chance for error in the current situation strengthens the case for making adjustments promptly should incoming information, interpreted in light of changed circumstances, begin to indicate that policy is not calibrated appropriately.