

MONETARY POLICY
GOALS AND CONDUCT FOR THE 1980's

HEARINGS
BEFORE THE
SUBCOMMITTEE ON
DOMESTIC MONETARY POLICY
AND THE
SUBCOMMITTEE ON INTERNATIONAL TRADE,
INVESTMENT AND MONETARY POLICY
OF THE
COMMITTEE ON
BANKING, FINANCE AND URBAN AFFAIRS
HOUSE OF REPRESENTATIVES
NINETY-SIXTH CONGRESS
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(II)

CONTENTS

Hearings held on—	Page
November 13, 1979.....	1
November 27, 1979.....	49
December 4, 1979.....	101

STATEMENTS

Berman, Dr. Peter I., Bank of America.....	124
Brunner, Prof. Karl, University of Rochester and University of Bern, Switzerland.....	103
Fand, Prof. David I., professor of economics, Wayne State University....	165
Frenkel, Prof. Jacob A., professor of economics, University of Chicago....	183
Friedman, Benjamin M., associate professor of economics, Harvard University.....	51
Hamburger, Prof. Michael, New York University.....	138
Meigs, Dr. A. James, chairman of the board, Claremont Economics In- stitute, professor of economics, Claremont Men's College.....	60
Parkin, Michael, professor of economics, University of Western Ontario, Canada.....	84
Voleker, Hon. Paul A., Chairman, Board of Governors of the Federal Reserve System.....	22

ADDITIONAL INFORMATION SUBMITTED FOR THE RECORD

Berman, Dr. Peter I., prepared statement.....	126
"Briefing Materials," prepared by the staffs of the subcommittee re recent developments in monetary policy.....	7
Brunner, Prof. Karl, prepared statement entitled "The Choice and Imple- mentation of Monetary Policy".....	108
Bryant, Ralph C., senior fellow, Brookings Institution, statement.....	218
Fand, Prof. David I., prepared statement.....	170
Frenkel, Prof. Jacob A., prepared statement.....	187
Hamburger, Dr. Michael J., prepared statement.....	142
Letter to witnesses testifying at hearing re assessment of the merits of two alternative monetary policy strategies for the 1980's, dated October 11, 1979.....	5
Meigs, Dr. A. James, prepared statement.....	66
Taub, Leon W., vice president, Chase Econometric Associates, Bala Cynwyd, Pa., letter dated November 6, 1979.....	216
Tracy Ronald L., and Paul B. Trescott, respectively assistant professor and professor, department of economics, Southern Illinois University, Car- bondale, Ill., statement entitled "Monetary Policy and Inflation in the United States, 1912-1977".....	246
Trescott, Paul B., visiting professor of economics, Southern Illinois Univer- sity, Carbondale, Ill., letter dated December 5, 1978.....	242

MONETARY POLICY

Goals and Conduct for the 1980's

TUESDAY, NOVEMBER 13, 1979

HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON DOMESTIC MONETARY POLICY, AND SUBCOMMITTEE ON INTERNATIONAL TRADE, INVESTMENT AND MONETARY POLICY OF THE COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS,

Washington, D.C.

The subcommittees met at 9:30 a.m., in room 2220, of the Rayburn House Office Building, Hon. Parren J. Mitchell, chairman of the Subcommittee on Domestic Monetary Policy, presiding.

Present: Representatives Mitchell, Neal, LaFalce, AuCoin, Hyde, Leach, and Ritter.

Chairman MITCHELL. Good morning. This hearing will now come to order. Today the Subcommittee on Domestic Monetary Policy joins with the Subcommittee on International Trade, Investment, and Monetary Policy in beginning 3 days of hearings on the recent dramatic, to say the least, historic changes in the strategy and focus of monetary policy. These changes were announced by the Federal Reserve Board Chairman Paul A. Volcker on October 6.

We had planned to have the second and third days of hearings tomorrow and the next day. However, they will be held on November 27 and December 4. We have to reschedule those hearings because the full Committee of Banking, Finance, and Urban Affairs will mark up the Chrysler guarantee loan legislation tomorrow and the next day.

Our witness today is Chairman Paul A. Volcker of the Federal Reserve Board. Before we hear from you, Mr. Chairman, I have a very short opening statement, and Chairman Neal also has an opening statement that he wants to make, and then I will call on other members of the subcommittee for any opening statements that they may want to make.

Twice before in the last 10 years inflation and recession have joined together to hammer the American economy and people. Today they threaten to join together again. Some would blame our recurring bouts with what has come to be called "stagflation" on OPEC, bad weather, and the like. However, we are not entirely blameless, not even for OPEC's price behavior. Between the second quarter of 1974 and the fourth quarter of 1978, prices here in the United States rose considerably faster than the price of the oil which we import from abroad. It is not surprising, therefore, that OPEC raised its price in 1979.

In the long view, we have only ourselves to blame for our current predicament and only we can change it. I think we will all agree that monetary policy has been part of the problem. More importantly, it is my opinion—and I think all the members of the subcommittee share my opinion—that monetary policy can be a part of the cure.

Soon after I assumed the chairmanship of this subcommittee in January of 1977, I warned, and have repeatedly warned, that the acceleration of money growth which had begun shortly before the 1976 Presidential election would, if continued, fuel inflation and bring us to the brink of another recession just about around this time. Unhappily, I think I was right in my warning. Powered by faster money growth, the so-called “underlying” or “base rate” of inflation rose from below 5 percent in the latter part of 1976 through 6, 7, and 8 percent, and on up to the 9 to 10 percent area. With each uptick in underlying monetary inflation, interest rates have risen, the dollar has dropped on the foreign exchange market, and the economy’s stability has become more and more difficult to maintain.

The task we now face is to reduce this basic monetary inflation without inducing or worsening recession. Now, I am generally supportive of the Federal Reserve’s newly announced resolve to do this slowly but surely, decreasing money growth presumably down to a rate “commensurate with the economy’s long run potential to increase production.” This is required by the Humphrey-Hawkins Act which was passed by this Congress.

Let me digress from my prepared statement to say that in addition to those requirements of Hawkins-Humphrey, the Federal Reserve sets money growth ranges each year. Unfortunately each year the ranges for M_1 that have been given to the Congress have been violated. My initial posture is, if we can stay within those ranges for now, we will begin the very significant process of getting monetary growth and inflation under control.

Although I generally approve of what has been done up to this point, I am concerned that the high interest rates which have resulted since October 6 will trigger another recession. Chairman Volcker, to put the matter concisely: Can we pull it off? Can we reduce the rates of monetary growth without inducing a recession? How do you assess the responses to date to your October 6 policy initiatives in the U.S. money, capital and commodity markets? How have the foreign exchange markets been affected?

What are the longer-term implications for unemployment—which is an albatross, it seems to me, around the neck of America, the long-term implications for inflation, interest rates, and the value of the dollar in exchange markets? Can we unwind inflation without a substantial rise in unemployment? And as most of you in this room know, the predictions are that unemployment will rise, some economists say to 7 percent in the beginning of 1980; others suggest that we will have an 8 percent rate of national unemployment by June 1980; still others suggest an astronomical 9 percent rate of unemployment by September 1980.

Before I welcome you officially, Chairman Volcker, I would like to call on Chairman Neal for his opening statement.

Chairman NEAL. Thank you, Mr. Chairman.

This morning we begin hearings on a very important topic: The longrun strategy for monetary policy through the 1980's. I am especially pleased that the Subcommittees on Domestic Monetary Policy and on International Trade, Investment and Monetary Policy are once again joining forces to conduct these hearings.

This past summer we met together for a very fruitful set of hearings on control of the Eurocurrency markets. That we meet again for joint hearings is evidence of our recognition of the important relationships between U.S. monetary policy and the international economy.

I am delighted to welcome Chairman Volcker of the Board of Governors of the Federal Reserve System. No one is better qualified to help us assess the relationship between U.S. monetary policy and the world around us.

There are two broad questions I hope these hearings will help us answer. The first relates to the basic nature of money management. Is it a tool that can be effectively employed to steer the economy from month to month, quarter to quarter, or year to year?

Does the record suggest that we have been very successful in trying to flex monetary policy first one way and then the other to combat whatever economic problem seems temporarily most pressing?

Economists have long debated the wisdom of trying to "fine-tune" the economy in that fashion. The recognition has been growing that such a strategy is very likely to fail.

It is time to try a different approach—one that adopts and adheres to an appropriate long-term target path for the growth of the monetary aggregate. To that end, I have introduced legislation specifying such a path, and mandating the Federal Reserve to follow it.

It is most encouraging that the Federal Reserve, under Chairman Volcker's leadership, has switched its operating techniques away from control of the Federal funds rate to more direct control of member bank reserves. That switch was a practical prerequisite for a long-term strategy aimed at controlling and stabilizing the growth of the monetary aggregates.

If fully exploited to that end, this switch in technique could prove truly revolutionary, one of the most profound and promising economic policy initiatives in recent years.

Nonetheless, though our capacity to control the money supply has been greatly enhanced by this switch in technique, the task remains to use it to the best advantage. A technique is just a "technique" whose ultimate usefulness depends on the basic monetary strategy in whose service it is employed.

The second basic question which we will try to explore deals with the impact of international forces on the choice and conduct of a monetary strategy. Is there an inherent conflict between domestic and international objectives?

The Federal Reserve has in the past been criticized from both sides as it tried to maneuver between domestic and international objectives. Some charge that in defense of the foreign exchange value of the dollar it has raised interest rates to high, damaging the domestic economy. Others—particularly foreign officials—have blamed the Federal Reserve and the administration for not doing enough to bolster a chronically weak dollar.

A commitment to a long-term strategy for stabilizing the growth of the monetary aggregates would, in my opinion, help reconcile the domestic and international objectives of monetary policy. If that commitment were credible to the world's financial markets, it would help stabilize the foreign exchange value of the dollar around some rational, justifiable trend. Not every problem would be resolved—the international economy would still be vulnerable to severe shocks and exchange rates would still be sensitive to changes in the major economies—but an important source of stability would be introduced into the behavior of exchange rates, provided the foreign exchange markets came to believe that the U.S. monetary aggregates were under control and tilted on a stable path that promised to rid us of excessive inflation in the 1980's.

In my opinion, no matter what other weapons we use in our war on inflation—increased productivity, decreased budget deficits, more sensible regulatory policies, and so on, all of which are things we certainly need to do—we are not going to win this war on inflation until the Fed gradually brings down the rate of growth in the money supply.

Mr. Chairman, nothing would be worse for our economy and the value of the dollar abroad than for the Federal Reserve System to continue an erratic, on-again-off-again monetary policy.

I hope we can get a commitment from you, Mr. Chairman, this morning for a long-term money policy which will mean health for our economy.

Chairman MITCHELL. Thank you very much, Chairman Neal.

Mr. Leach, do you have an opening statement?

Mr. LEACH. I have just a few comments, Mr. Chairman.

I would like to welcome Chairman Volcker on behalf of the Republicans. I particularly enjoyed your opening comments, Chairman Mitchell, and agree with you that monetary policy is part of the problem and part of the cure, but so is fiscal policy.

The Fed is independent of Congress and the Executive only to the point that it must work within the constraints established in the fiscal arena. In that regard, it seems to me that responsibility for the current debilitating high interest rates must be shouldered squarely by Congress and the President and not simply by the Federal Reserve Chairman.

So it would be my hope today, Chairman Volcker, that you will comment on your expectations in the monetary arena, but also on what you think we in Congress can best do to underscore and bolster the Fed's policy, and in particular to move in a direction where fiscal and monetary policy work together rather than at odds.

Thank you.

Chairman MITCHELL. Thank you.

At this point in the record, without objection, I would like to insert the letter of October 11, 1979, which was sent to each witness testifying at the hearing and also "Briefing Materials" prepared by the joint staffs of the subcommittees re recent developments in monetary policy:

PARRIN J. MITCHELL, MD., CHAIRMAN
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U.S. HOUSE OF REPRESENTATIVES
 SUBCOMMITTEE ON DOMESTIC MONETARY POLICY
 OF THE
 COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS
 NINETY-SIXTH CONGRESS
 WASHINGTON, D.C. 20515

October 11, 1979

Dear

On November 13, 14 and 15, the Subcommittee on Domestic Monetary Policy and the Subcommittee on International Trade, Investment and Monetary Policy will hold joint oversight hearings on "Monetary Policy -- Goals and Conduct for the 1980's." We would appreciate hearing your views on this subject and invite you to testify on November 15 at 9:30 a.m. in Room 2128 Rayburn House Office Building.

Although we do not want to limit your testimony in any way, we would like to hear your assessment of the merits of two alternative monetary policy strategies for the 1980's.

Strategy 1 places top priority on halting the decline in the value of the dollar on the foreign exchange markets, and proposes to do so by keeping money "tight" at home and resisting speculative attacks against the dollar abroad until the decline is halted. Under this strategy, in the months immediately ahead, the Federal Reserve would raise the Federal funds rate substantially above the current level. The purpose would be to raise U.S. short term interest rates and slow U.S. money growth so as to provide incentives for money managers around the world to buy dollars and hold dollar denominated securities. Simultaneously, the Federal Reserve and the Treasury would intervene vigorously on the foreign exchange markets, in cooperation with other central banks, to combat any excessive fluctuations in exchange rates that might arise from speculation against the dollar even in the face of high interest rates. After the dollar had been stabilized, primarily against the German mark, sufficiently long to convince foreign exchange traders that further precipitous declines would not be tolerated, monetary policy could be gradually re-oriented toward the domestic goals of full employment and price level stability.

What risks would this strategy entail? Can such a policy succeed without the cooperation of foreign central banks? That is, would our raising interest rates not invite retaliation by foreign central banks, and hence a spiraling upward of interest rates worldwide without noticeable effect on the foreign exchange value of the dollar? Even assuming a policy of cooperation by foreign

Page Two
October 11, 1979

central banks, would not maintaining the funds rate at a higher level than currently prevails precipitate a sharp deceleration of money growth and consequent recession? Would not fighting that recession, and even the expectation of fighting it, again destabilize exchange rate markets?

Strategy 2 would ignore movements in interest rates and concentrate instead on establishing and remaining on or near a long run disinflationary monetary growth target path. (See, for example, the Banking Committee's recommendations of July 27, 1979 (Report No. 96-396) and H.R. 5476, recently introduced by Mr. Neal.

Can this strategy be followed independently of the monetary policies pursued by other central banks? Would it help to promote achievement of the 1983 Hawkins-Humphrey Act goals of 4 percent unemployment and 3 percent inflation and at the same time to stabilize the value of the dollar on foreign exchange markets? What risks does it involve? Should it be adhered to in the face of increases in interest rates and unemployment? If the strategy is not binding, how can we convince investors and traders around the world that we are serious about reducing inflation and that the exchange rate risk from holding dollar denominated assets will diminish?

Further in this regard, is there reason to believe that adhering to an announced long run disinflationary monetary growth target path would lead to higher interest rates and higher unemployment than would a policy that accelerated money growth when interest rates and unemployment moved higher? Would it not be wiser to hold fast to the announced monetary growth target path even in the face of temporary increases in unemployment, which could be dealt with by pinpointed fiscal policies?

Finally, we note that recently the Federal Reserve raised its discount rate from 11 to 12 percent and at the same time announced that the Open Market Committee will try to control monetary growth by metering the flow of reserves instead of manipulating the Federal funds rate. The discount rate rise would appear consistent with Strategy 1 while the change in operating procedure seems consistent with Strategy 2. We would appreciate your comments on the meanings of these recent changes in policy and tactics by the Federal Reserve.

We look forward to hearing your views on these and other questions you may want to address on November 15.

Sincerely,

Stephen L. Neal, M.C.
Chairman, Subcommittee on
International Trade, Investment
and Monetary Policy

Parren J. Mitchell, M.C.
Chairman, Subcommittee on
Domestic Monetary Policy

BRIEFING MATERIALS
PREPARED FOR HEARINGS ON
RECENT DEVELOPMENTS IN MONETARY POLICY
HELD JOINTLY BEFORE THE SUBCOMMITTEES ON
DOMESTIC MONETARY POLICY
&
INTERNATIONAL TRADE, INVESTMENT & MONETARY POLICY
OF THE
COMMITTEE ON BANKING, FINANCE & URBAN AFFAIRS

NOVEMBER 13 & 27, & DECEMBER 4, 1979

CHART 1. Exhibit 1 breaks the 1954-1977 period into eight consecutive 3-year periods: 1954-1956, 1957-1959, etc. For each 3-year period, Chart 1A relates average M1 growth to the average rate of rise in the Consumer Price Index (inflation); Chart 1B relates average M1 growth to the average rate of interest on 3-month Treasury bills; Chart 1C relates average M1 growth to the average rate of unemployment.

The exhibit shows that there is a close positive relationship between money growth and inflation (chart 1A) and between money growth and the rate of interest (chart 1B). It shows that as money growth increases, so do both inflation and the rate of interest. However, it also shows that there is no relationship between the rate of money growth and the rate of unemployment (chart 1C). This belies the Phillips Curve theory that inflation is inversely correlated with unemployment.

The closeness of these relationships is denoted by the lines which were fitted in between the points on the graphs. Note the straight lines which were easily drawn in charts 1A and 1B. It was impossible to fit one line into chart 1C.

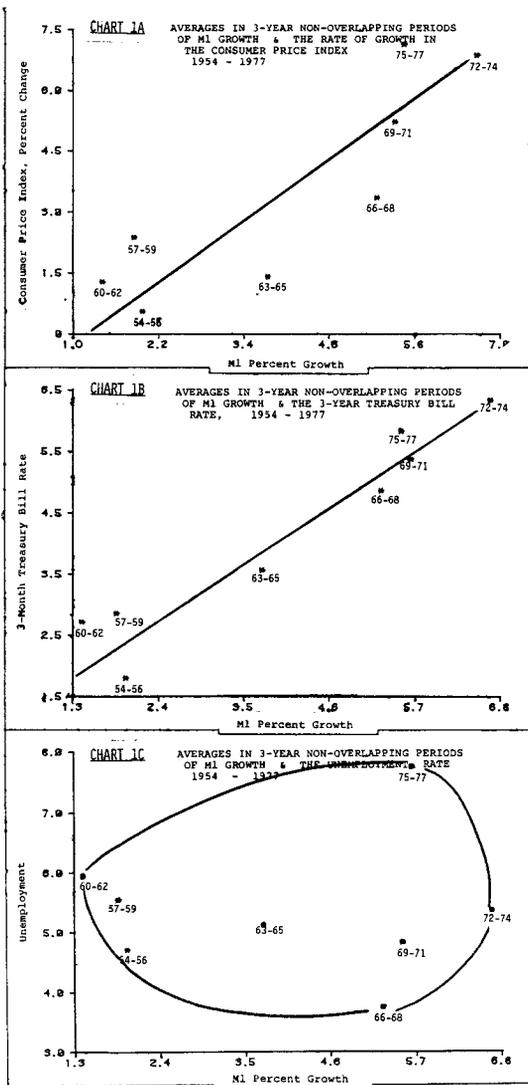


CHART 2. Last March, the Committee recommended that money growth be established at 6 percent between the 4th quarter of 1978 and the 4th quarter of 1979, then reduced one percentage point each year until year-over-year money growth, defined as M1 + ATS accounts, is established at 3 percent in 1982, where it would be maintained in 1983.

In the fourth quarter of 1978 and the first quarter of 1979, the growth rate of the money supply was substantially less than 6 percent per annum. As a result, the outstanding stock or volume of money fell short of the volume projected by the Committee as necessary if we are to avoid a recession while unwinding inflation. However, in the April - September, 1979 period, money supply growth soared to an annual rate in excess of 10 percent.

The shortfall in money growth late last year and early this year generated strong downside pressures on economic activity, so it is not surprising that the economy's momentum changed from up to down during the first half of this year.

In the same way, the upsurge in money growth that began in the second quarter provided strong upward impulses, so it is not surprising that the economy's slide was halted this summer during the third quarter.

The sensitivity of the economy to money supply changes warns us of the necessity of avoiding sharp changes. Such changes are inevitable if the Federal Reserve focuses on hitting interest rate targets. Under that strategy, money growth is whipsawed by uncontrollable changes in credit and foreign exchange markets. The Federal Reserve's new resolve to focus directly on controlling money growth should avoid the destabilizing sharp changes which have affected our economy in the past.

CHART 2
 ACTUAL MONEY SUPPLY
 VERSUS
 HOUSE BANKING COMMITTEE'S RECOMMENDATION
 OF MARCH 1979

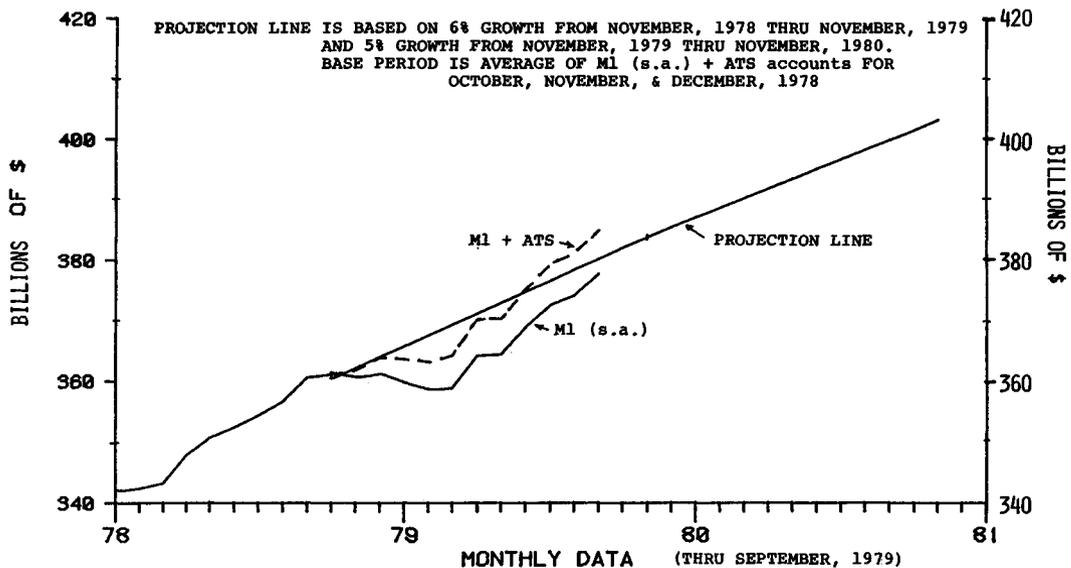


CHART 3. M1 growth, measured between the same months of adjacent years (for example, January 1947 to January 1948), cycled down and up seven times between the end of World War II and 1978. Beginning in late 1978 it appeared to start down once again. However, the slide was reversed in April 1979.

Our economy's performance in the post World War II period is mirrored in this chart of money growth. Inflation was broken after World War II and again after the Korean War by sustained low money growth. It was rekindled after 1964 by upsurges in money growth in the late 1960s, 1971-1973, and 1977-1978. Recessions, which are delineated by the vertical lines on the time axis, occurred in the wake of sharp prolonged decelerations in M1 growth, as the chart shows.

Last March, based on data through February, we stated: "The chart indicates that we are now headed for another recession." Then, in July, observing that the slide in money growth had reversed in April, we stated: "How deep and long the recession becomes depends on how the Federal Reserve manages the growth of M1 (adjusted to include ATS accounts) from now on." Now, in November 1979, it is clear that the economy definitely slowed and dipped in the first half of 1979, although perhaps not enough to be labelled a recession; and that in the wake of the upsurge in money growth that began in April, the economy reversed in the summer or third quarter.

Barring either (a) another sharp prolonged deceleration in M1 growth, inclusive of ATS accounts, or (b) disruption in the flow of foreign oil, we do not foresee a major recession developing in 1980. Further in this regard, the Federal Reserve's new strategy of focusing on controlling money growth, should rule out another sharp prolonged deceleration of money growth. However, the flow of foreign oil is now an unknown which could cause future problems.

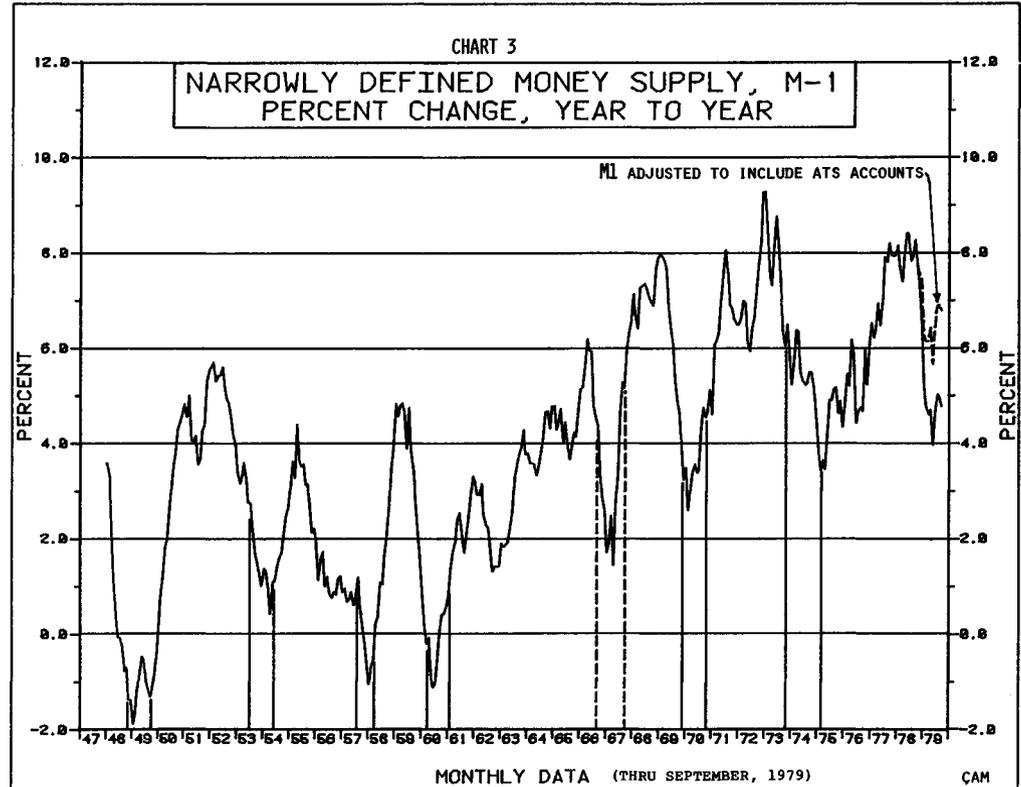


EXHIBIT 4. Charts 4A and 4B map year-over-year percentage changes in the CPI and Gross National Product deflator, respectively, against year-over-year percentage changes in M1 (money supply) lagged two years. These charts show that the rate of inflation follows M1 growth of two years earlier fairly closely.

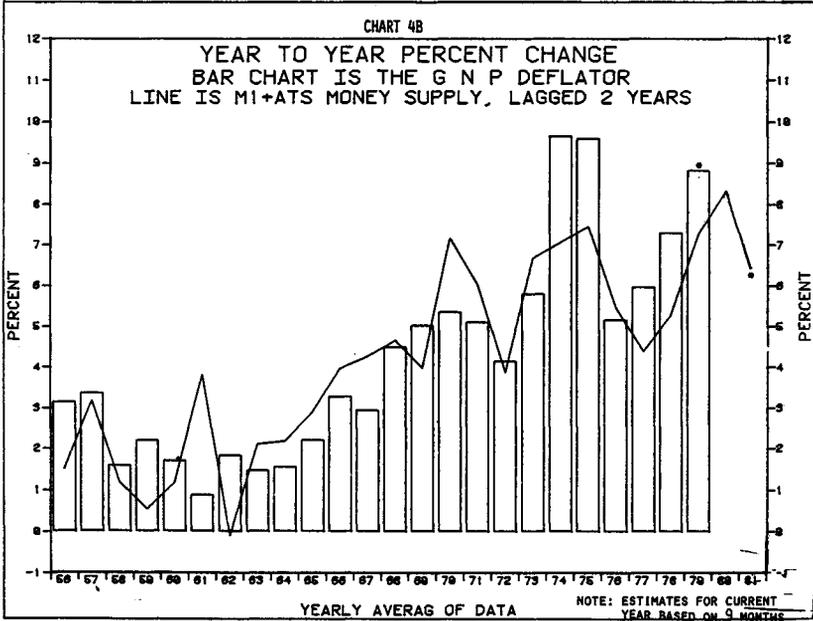
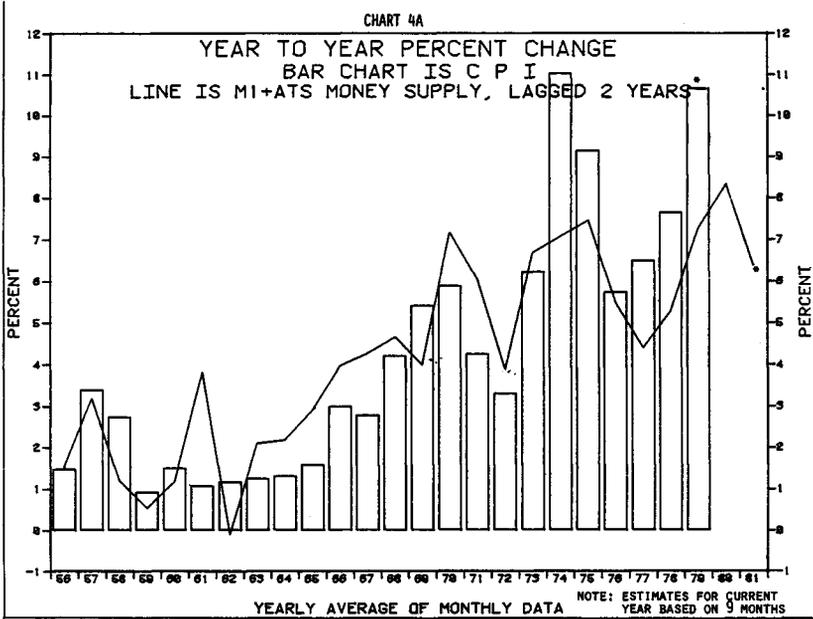


CHART 4 (continued). Charts 4C and 4D map percentage changes measured between the same quarters from one year to the next in the Consumer Price Index (CPI) and the Gross National Product deflator, respectively, on percentage changes in the quarterly average in M1, also measured between the same quarters from one year to the next but lagged 8 quarters. These charts also show that the rate of inflation follows M1 growth of two years earlier fairly closely.

Together, the several exhibits of chart 4 provide hope that inflation will begin to subside no later than 1981.

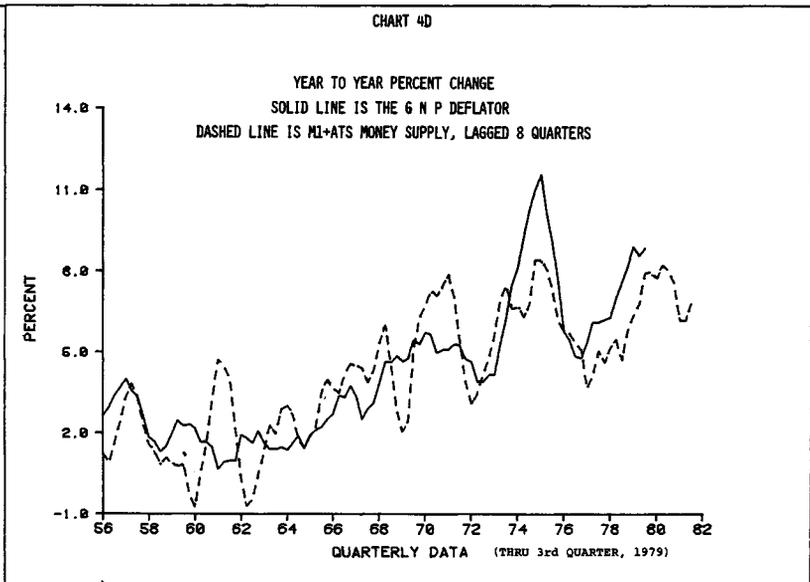
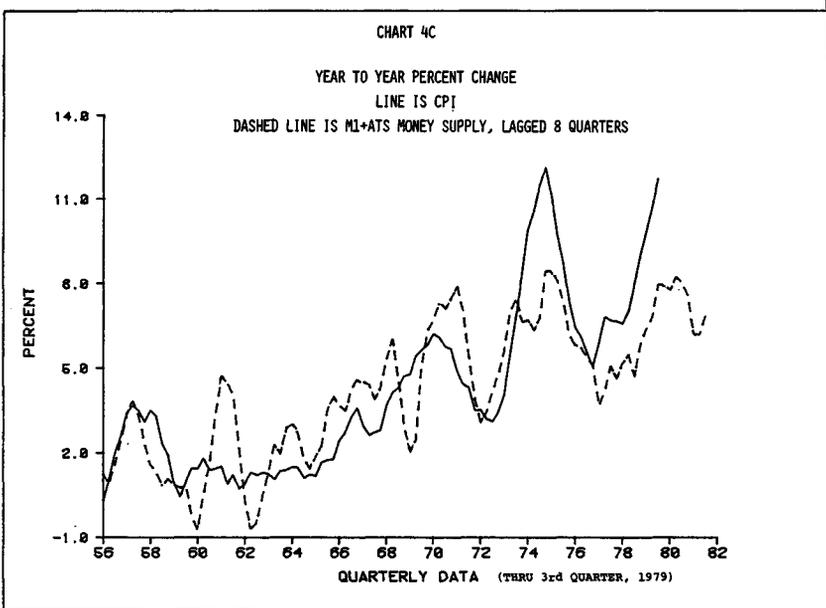


CHART 5. This chart plots the monthly average of the Federal funds rate--the overnight inter-bank interest rate, and percentage changes in the Consumer Price Index (CPI) from twelve (12) months ago. It shows that monthly movements in the Federal funds rate occur very closely together with changes in the inflation rate measured from the same month a year ago. This indicates that even short-term interest rates are very powerfully affected by immediate past inflation.

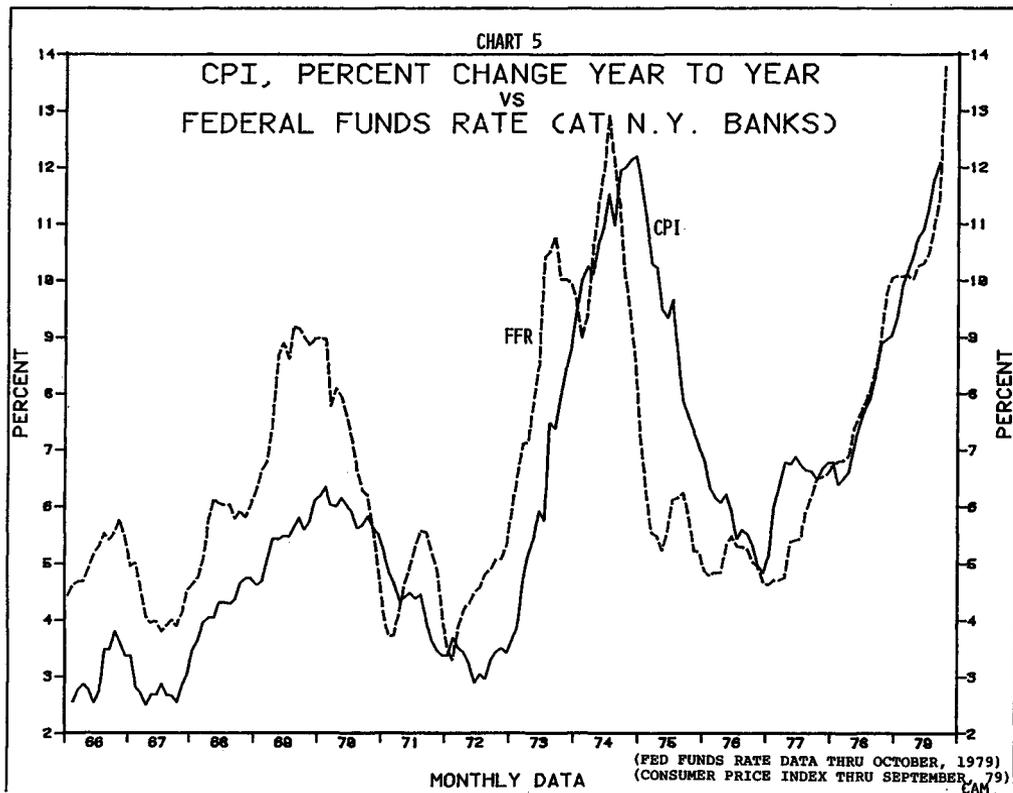


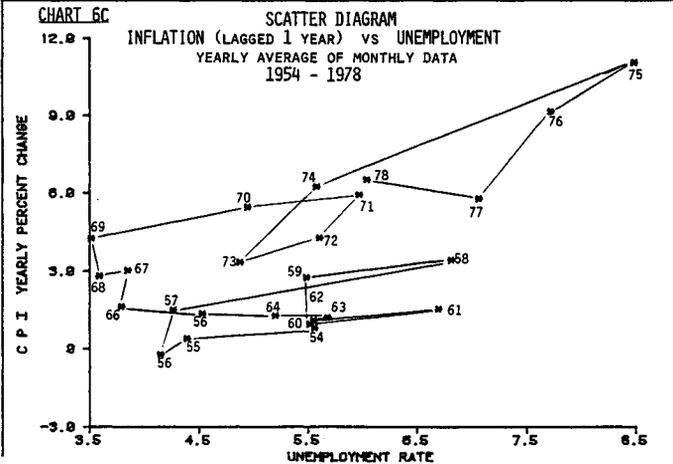
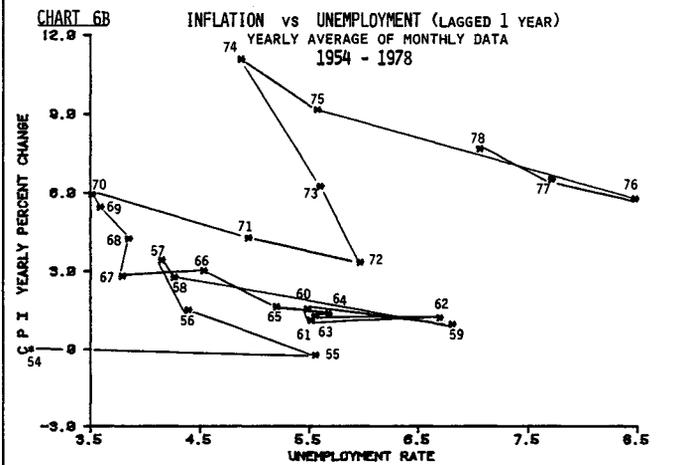
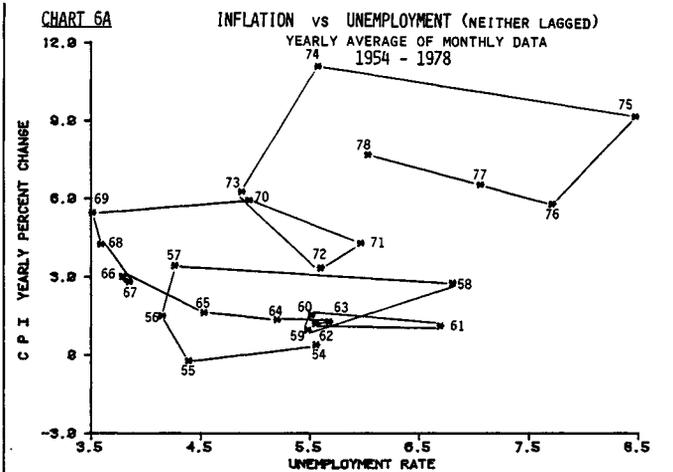
CHART 6. This chart graphs year over year inflation (vertical axis) against yearly unemployment averages (horizontal axis). The top panel graphs the two concurrently, the middle panel lags unemployment 1 year, and the bottom panel lags inflation one year.

The concurrent panel (6A) reveals that the so-called Phillips curve is unstable. On average, the trade-off was highly favorable from 1954 to 1965 but has worsened significantly since then.

The middle panel (6B) reveals much the same story. Specifically, for an arbitrarily selected unemployment rate, the rate of inflation the following year is much higher today than it was in the 1950s and early 1960s.

Finally, the evidence plotted in the lower panel (6C) reinforces this story. As indicated here, there is even some tendency for accelerating inflation to be followed by higher unemployment.

Viewed together with Chart 1, these three panels show that unemployment cannot be reduced by accelerating money growth and inflation. The only enduring result of faster money growth is higher inflation..



Chairman MITCHELL. I anticipate, Chairman Volcker, that other members of the subcommittee will be joining us. The full committee is in another day of hearings on the Chrysler bill, called by the Republican members.

I welcome you. I am very, very pleased that you could take time out from what must be an absolutely frenetic schedule, to be with us this morning. We anxiously await your words of wisdom.

STATEMENT OF HON. PAUL A. VOLCKER, CHAIRMAN, FEDERAL RESERVE BOARD

Mr. VOLCKER. I think perhaps the best way for me to proceed, Mr. Chairman, is to read my statement, which addresses itself to at least some of the questions that have been raised in your opening statement and those of Mr. Neal and Mr. Leach.

I am pleased to participate in these hearings on the goals and conduct of monetary policy. As you know, this is a subject that has been the focus of considerable public attention and debate recently. That attention is symptomatic of the widespread concern and uneasiness about the performance and prospects of our economy.

All of us—members of the committees, members of the Federal Reserve Board, and citizens generally—would no doubt prefer more equitable economic conditions, with the performance of financial policies relegated to the back pages of the newspapers. But conditions being what they are, I can only welcome this opportunity to contribute to general understanding of the problems we face and the approaches we are taking to their solution.

I would like to set the stage for a dialog this morning by reviewing briefly the decisions taken by the Federal Reserve on October 6, indicating both the circumstances that prompted those decisions and the objectives of our actions. In the process, it should be possible to address in a fairly concrete way some of the broader issues of monetary strategy that you have indicated you wish to examine.

Viewed from virtually any vantage point, economic developments in the weeks and months immediately preceding the Federal Reserve's October 6 announcement were disturbing. The level of business activity had dropped in the second quarter, and virtually all economists were either predicting a recession or felt a recession had already started.

As the summer ended, however, signs began to emerge of a surprising degree of strength in spending. Subsequently available information, such as the 2½ percent annual rate of increase in real GNP for the third quarter, the large increase in retail sales in August and September, and the record increase in consumer installment credit for September has in fact confirmed this assessment.

In retrospect, the suspicion that the second quarter performance was heavily affected by the shortage of gasoline seemed confirmed, but the subsequent burst in spending was troubling because it seemed to reflect in considerable part a "buy now" attitude spurred by an intensification of inflationary expectations.

Savings dropped to historically low levels, and some inventory imbalances seemed to be developing. Such a pattern could temporarily provide some strength to business activity, but if extended the clear threat was that the ultimate result would be to deepen and prolong

anticipated adjustments in production and employment—adjustments that in part are related to the oil price shock.

These unsettling developments were plainly related to the inflationary situation. The most widely watched price indices had advanced to a range of 13 to 14 percent increase at an annual rate. Many Americans, as they struggled to balance their family budgets and suffered a continuing erosion in the value of their savings, began to doubt the prospects for a return to greater stability. While the acceleration of inflation this year has in large part been a reflection of a surge in energy prices, the question remained as to whether the higher rate of inflation would not be built into wage and other cost elements in the economy, defeating the prospects for some relaxation in price pressures as the bulge in energy prices passed.

Consequently, in the absence of firm action to deal with inflation and inflationary expectations, there was a clear risk that the runup in energy prices would work its way into wages and prices generally, thereby raising the Nation's underlying inflation rate and, among other things, contributing to pressures on oil prices.

That risk was underscored by an apparent buildup of speculative pressures in commodity markets in September, carrying with it the potential of aggravating economic instability. Rapid price movements in gold and silver markets, while not of critical importance in themselves, seemed to reflect discouragement over our ability to deal with inflation, and the atmosphere began to affect movements in the prices of other metals. The danger was that the bidding up of prices in commodity markets not only would in itself reinforce the inflationary trends, but that it would lead to a brief and unsustainable surge of buying.

These same expectational forces were reflected in an atmosphere of increasing uncertainty in foreign exchange markets, and in September the dollar weakened against a number of major currencies. The external value of the dollar is sensitive to perceptions and expectations about our economic prospects and policies, and especially to concern about our ability to deal with inflation. And, given the central position of the dollar in international financial markets, as well as the impact of a decline in the value of the dollar on the prices of imports renewed instability in foreign exchange markets could undercut prospects for dealing with inflation generally and for achieving moderation in oil prices in particular.

Under these circumstances, there was in early October no conflict or meaningful "tradeoff" between the domestic and international objectives of economic policy. Nor was there any real tradeoff between inflation and unemployment. The clear and present danger was that failure to deal with inflation and inflationary expectations would in time produce more—not less—economic instability, ultimately with higher prices and greater unemployment.

In that setting, the priority for policy was decisive action to deal with inflationary pressures and to defuse the dangerous expectational forces that were jeopardizing the orderly functioning of financial and commodity markets. The Federal Reserve clearly had a key role to play in this situation. Although the solution to the problem of inflation should not reside with monetary policy alone, control over money and credit is an essential part of the overall policy framework. In the long run, inflation can continue only if it is nourished by excessive

monetary expansion. In the short run, it was clear by early fall that the growth in money and credit was threatening to exceed our own targets for the year, and was nourishing inflationary expectations.

Efforts had been made during the summer to slow this excessive rate of money and credit expansion, largely by permitting money market interest rates to rise, a process accompanied by several increases in the discount rate. The October 6 actions involved a change in instruments and tactics to reinforce and underscore our intention to achieve moderation in the growth of money and bank credit.

The new steps taken did not reflect any change in our basic targets for the various monetary aggregates for 1979; they did provide added assurance that those objectives will be achieved. In doing so, the new measures should make abundantly clear our unwillingness to finance an accelerating inflationary process and our desire to "wind down" inflationary pressures.

One component of the October 6 package was a change in our operating procedures. In recent years, with the support of this committee and others, explicit targets for the growth of money have been a central feature of our approach toward monetary policy. However, the operational guide from day to day in conducting open market operations has typically been the so-called Federal funds rate—the rate established in interbank trading of reserve balances. Translation of money stock objectives into day-to-day management of the Federal funds rate is effective if the relationship between the public's demand for cash balances and short-term market interest rates is relatively stable and predictable. But in an environment of high and relatively volatile inflation rates, the relationship between interest rates and money—or, for that matter, between interest rates and economic activity—is more difficult to appraise. Moreover, the operating techniques over time may have contributed to excessive supplies of credit by encouraging a view by banks or others that they could count on access to liquidity at interest rates reasonably close to whatever levels were currently prevailing.

Consequently, we are now placing more emphasis on controlling the provision of reserves to the banking system—which ultimately governs the supply of deposits and money—to keep monetary growth within our established targets. In changing that emphasis, we necessarily must be less concerned with day-to-day or week-to-week fluctuations in interest rates, because those interest rates will respond to shifts in demand for money and reserves. I would emphasize that, in an important sense, our objective has remained the same: to achieve the growth of money that we believe suitable to the Nation's economic goals. What is involved is a tactical change in the approach to control of the money supply. We did not before, as we do not now, attempt to maintain a fixed or predetermined pattern of interest rates over time. But changes in interest rates will necessarily be observed and evaluated over time, along with the entire array of economic and financial variables, in reaching policy judgments.

We took two other actions on October 6. The Board approved a 1-percent increase in the discount rate so that restraint on bank reserves would not be offset by excessive borrowing from the Federal Reserve banks. And we placed a special marginal reserve requirement of 8 percent on increases in managed liabilities of larger banks—including the U.S. agencies and branches of foreign banks—because that

source of funds, which is not included in the usual definition of the money supply, has financed much of the recent excessive buildup in bank credit.

Let me highlight a few points about our current approach, particularly as they bear on the broad issues of monetary strategy raised in Chairmen Mitchell and Neal's letter of invitation.

First, the effort to restrain monetary expansion in the face of strong credit demands and rising levels of economic activity has initially entailed increases in market rates of interest. Whether those increases persist, or whether they subside rather promptly, will in the end be determined largely by the course of the economy and inflation. Control of the money supply is not synonymous with rising interest rates; it all depends upon the performance of the economy itself. In the long run, only the prospect of a lower inflation rate can create the environment for a sustained and substantial reduction in interest rates.

Second, some other important industrialized countries have recently experienced increases in their interest rates. These events have been interpreted by some observers as implying the existence of an "interest rate war" in the pursuit of conflicting exchange rate objectives. That interpretation seems to me unwarranted in circumstances where those countries are responding reasonably to inflationary pressures in their own economies.

There is, of course, always the possibility that national economic goals and policies will not mesh. I know of no protection against that possibility other than working continuously with our partners abroad to insure that policies take into account our mutual interdependencies and don't move in mutually damaging directions. Within limits, all major industrial countries have several tools of economic policy at their disposal, and particular elements can be emphasized or deemphasized at particular times. Intervention in foreign exchange markets can sometimes be helpful—although experience illustrates clearly that intervention alone cannot substitute for more fundamental actions over time if stability in exchange markets is to be maintained. We continue, on a day-to-day basis, to monitor developments in foreign exchange markets, and I am satisfied that if and when intervention is necessary, our actions can be closely coordinated with those of key monetary authorities abroad to maximize their effectiveness. Meanwhile, we shall continue to consult with our trading partners to assure mutual clarification of our policy objectives and decisions.

In that connection, I do not anticipate, in practice, the sharp dichotomy between "foreign exchange" and "money supply" oriented monetary policy strategies outlined in your recent letter. The fact is that for the foreseeable future, a policy looking toward attaining and maintaining a noninflationary growth in money at home would appear broadly compatible with our concern about the international position of the dollar. I do not in any event view our domestic and international problems as distinct and separable. Recent experience has shown all too clearly that weakness in the value of the dollar internationally is symptomatic of basic problems here at home.

It is fundamentally inflation that raises questions about the stability of holdings of dollar-denominated assets or the outlook for our balance of payments, thereby prompting recurrent downward pressures on the dollar in exchange markets. And it is inflation and the distortions it creates that constitute a major impediment to the resumption

of balanced, sustainable economic expansion at home. In that sense, the problems confronting us on the domestic and international fronts demand a common response, and an essential element in that response must be a firm and credible monetary policy, seeking and attaining appropriate restraint on growth in money and credit over time.

The suggestion has been made that this process could be speeded by setting out a specific target path for growth in the money stock over a number of years ahead. Chairman Neal's bill would incorporate such a strategy in law. In examining this question, members of the Federal Reserve Board remain of the view that there are decisive drawbacks to setting out so precise a growth target over so many years ahead.

We recognize that approach is rooted in a central element of truth: that a return to price stability will require over time a substantially reduced rate of monetary and credit growth. Indeed, the Federal Reserve has often reiterated in the past the need to reduce growth in money over time if we are to deal with inflation.

Moreover, some observers would go further, arguing that by clarifying our intentions in a numerically precise and simple way, we could more decisively change expectations about inflation, assist in achieving a national consensus, and thus change behavior in a constructive way.

However, experience shows that many forces can affect the financial requirements of the economy at any time. Other governmental policies, institutional changes, exogenous shocks to the economy—emanating from both domestic and foreign sources—and changes in the public's money preferences can alter the relationship between money and economic performance. Rigid adherence to a fixed money stock path set for years ahead might therefore turn out to be inappropriate, sometimes needlessly wrenching financial markets or unduly constricting our flexibility in responding to some cyclical or other disturbances. If, on the other hand, the targets are changed or interpreted more flexibly, unnecessary confusion could arise and the basic rationale would then be undermined.

Furthermore, even though we hope that our new operating procedures will bring some improvement, we must recognize that monetary control will always be imprecise. Recent events indicate quite clearly that even the problem of specifying precisely the monetary variable that should be controlled over a period of years is a very knotty one; what serves as "money" in our rapidly changing financial system is far from a constant.

For all of these reasons—and despite the underlying element of truth in the broad proposition relating inflation to excessive monetary growth—I think it would be a mistake to attempt to set rigid and narrow long-range monetary targets. A legislative approach—even one with some built-in leeway—would raise the further basic question as to whether the Congress would want to inject itself so directly into these judgments filled with technical complexity and doctrinal controversy. It does not seem to be consistent with the approach taken by the Congress in establishing the Federal Reserve System 65 years ago, and consistently adhered to since, that these decisions should emerge from a dispassionate, professional, deliberative process and be shielded from partisan pressures.

I would strongly suggest that the present system under which the Federal Reserve reports its intentions and its targets to the Congress within the framework of the Humphrey-Hawkins Act is a much more promising approach. It preserves a necessary degree of flexibility in monetary management while providing a good basis for communication. While our experience has been limited, the present arrangement seems to be working well. The line of responsibility and accountability is clear.

I am sure other members of the Board, as myself, have profited from your attention to these important issues of monetary policy. We particularly welcome your concern with developing policies appropriate to the longer term future, and look forward to working with you as we develop and announce new monetary targets.

Chairman MITCHELL. Thank you, Mr. Volcker. That was a very comprehensive statement indeed.

There are some questions that still remain in my mind, and I am certain in the minds of the other members of the subcommittees. Ordinarily on the subcommittee, Mr. Volcker, we operate in a very informal fashion. However, today I think we will operate under the 5-minute rule to allow all members to put questions to you. I will lead off and I will take my 5 minutes first.

Recently there have been a number of press reports concerning the earnings and liquidity squeeze in some thrift institutions. I assume that these press reports are correct. Will the Federal Reserve Board be prepared to extend advances or other credit to any of these institutions should the current problem become aggravated?

Mr. VOLCKER. You may recall, Mr. Chairman, that plans along that line were developed in 1974, the previous period of this sort. We have reviewed those plans. I am satisfied that we have the ability to deal with any extraordinary liquidity problems that may arise, as part of our role as lender-of-last-resort.

Chairman MITCHELL. Could you enlighten me just a little bit more on the details of those plans?

Mr. VOLCKER. The plans, fortunately, never needed to be implemented before. We do have authority to lend to non-member banks in extraordinary circumstances; or, we can, potentially, lend to a member bank and the member bank in turn could lend the funds to another institution. Plans were developed in 1974 to take advantage of either of those avenues in the case of a soundly managed institution that ran into extraordinary liquidity problems. We have reviewed those plans, and I think they could be used to deal with the kind of situation that you envisage.

Chairman MITCHELL. Certainly interest rates have gone up since October 6, and I assume that this was not a total surprise to you. I want to ask, first, whether there have been any developments in recent days, which give you any hope at all that interest rates may begin to drift down a bit—at least short term rates?

Mr. VOLCKER. In the most recent days there has been quite a sharp drop in interest rates. Interest rates, under the operating procedures that we are now following, should reflect, as I indicated in my statement, changes in demand in the marketplace for credit and money; over a period of time they should reflect economic activity, and particularly both the facts and expectations about inflation.

I think it is too brief a period to draw any very profound conclusions about what is going on. But we had a period in October when interest rates went up quite sharply, as you know, and in part that reflected the fact that business activity was indeed stronger and inflationary pressures were probably stronger than almost anyone had anticipated. Whether this change in trend in the last few days is meaningful or not, I think only time can tell.

Chairman MITCHELL. I think the members of the subcommittees were very wise and prudent in waiting about a month before we started looking into this issue. Unfortunately, a number of the committees of the Congress immediately jumped on the Fed—

Mr. VOLCKER. I agree with you.

Chairman MITCHELL (continuing). Though there is no way in the world we could determine what the impact was, or would be. We thought we would wait at least 30 days.

Concerning the impact of the policy changes instituted on October 6, you mentioned in your testimony some of the more encouraging signs related to those policy changes. Let me ask: What, if any, developments do you find discouraging as a result of the policy changes you instituted?

Mr. VOLCKER. I am not discouraged by any of the results I see. I have noted, as other people have noted, that the strength of inflationary forces in the economy is at least as great as we anticipated at the time that we took those measures. And there is a good deal of uncertainty about the oil price situation, in particular, I think that is going to have a large bearing on the way the economy develops in coming months, the way inflation develops in coming months, and therefore the way the credit markets respond to our initiative.

But basically, while we have had a good deal of turbulence in financial markets—or did earlier in October at least—and while no one ever likes to see that degree of turbulence, as we have gained a little perspective, as you suggest—with a month or so having passed—I feel somewhat encouraged by the results of the initiative.

Chairman MITCHELL. My time is up. We are dealing with such a thorny and complex area. Do you find it at all discouraging that there has been no impact on the rate of inflation—or is that simply because of the time factor.

Mr. VOLCKER. In my judgment, it is clearly too early to see that kind of an impact, Mr. Chairman. It will take months literally before we could really expect to see any concrete evidence of this action on the rate of inflation. The near-term inflation figures are going to be importantly impacted by whatever decision is made on oil prices in December.

Chairman MITCHELL. Chairman Neal?

Chairman NEAL. Thank you, Mr. Chairman.

Mr. Volcker, you say on page 12 that the present system whereby the Federal Reserve reports its intentions and its targets regarding money growth is a much more promising approach than the Neal bill, which legislates a path for money growth from now through 1984.

I find that somewhat puzzling, in view of the fact that from late 1977 until now the Federal Reserve's money growth intentions haven't been lived up to, and its targets haven't been hit. Why then, in your opinion, is the present system more promising?

Mr. VOLCKER. I hope that we will hit those targets in 1979; that is part of the rationale of the recent actions we took. Again, there is no certainty in this area, and the money supply on a month-to-month basis can be elusive, as some of your statements suggested.

But I would point out in that connection, Chairman Neal, that it was only in the beginning of 1979, as I recall it, that we really adopted the full Humphrey-Hawkins approach—where we had a target for a year which we reviewed in mid-year for the same time period and then, on a tentative basis, extended that target out 1 year beyond, to 1980 in this case.

Earlier, as you recall, we had been reviewing these targets quarter by quarter and had fallen into the habit—not a very good one, in my opinion—of using the previous quarter as a base, so whatever had happened up until the time we announced a new target was incorporated as a base for the new projection.

The Humphrey-Hawkins procedure, I think, has provided a little clearer base for the formulation and announcement of these targets, and we have really only had 1 year's experience with it.

Chairman NEAL. Well, we would be doing essentially the same thing by House Congressional Resolution 133.

Mr. VOLCKER. It is a modification of the earlier procedure, but it is a modification that happens to make it a little easier, I think, for you and others to hold our feet to the fire as to whether we hit a target during a particular year. The previous procedure involved a kind of rolling target, and it was always a question of whether we hit or whether we didn't hit it.

Chairman NEAL. Well, just looking at the targets set out in that bill and subject to the assumption that background conditions would remain essentially constant, would that target path for monetary policy, would you find that a sensible one?

Mr. VOLCKER. My main reaction to the bill, I think Chairman Neal, is that it required quite a narrow path I can't complain that it did not move quickly enough toward a level more consistent with price stability, but I react to the narrowness of the ranges, the implied rigidity. While you gave the Federal Reserve a little bit of leeway in altering the target—aiming at a 1 percent band, as I recall, with room changing that by only 1 percent—that really isn't enough room to recognize the uncertainties of the situation, the difficulties of even defining the money supply that closely, of allowing for the variety of influences which really can alter the money/economic relationship.

And, I think that is the kind of problem you get into if you try to legislate so definite a path that far ahead. But I very much welcome and agree with the notion that we have got to follow that kind of a broadly declining trend if we are going to restore price stability.

Chairman NEAL. Where, in your opinion, should we be say 5 years from now?

Mr. VOLCKER. Five years from now I would like to be around that level that you suggest in your bill. I think experience shows that using a kind of present M₁ concept, the increase in that particular figure should be very small if, indeed we are serious about price stability.

Chairman NEAL. Well, I would say we are in general agreement. Let me say also that I really do not want to see us have to pass a bill. That isn't really what I want.

Mr. VOLCKER. Right. I understand.

Chairman NEAL. It was only introduced out of a sense of frustration—

Mr. VOLCKER. To illustrate the point.

Chairman NEAL [continuing]. That we were seeing the money supply go up and down, keeping the economy on a roller coaster kind of pattern. It just seems so important to me that if you at this point could announce, even if not in absolutely rigid terms, a strong commitment on the part of the Board to follow—

Mr. VOLCKER. To bring it down gradually.

Chairman NEAL [continuing]. To bring it down gradually over a period of about 5 or 6 years, and make some kind of very strong commitment to this course, recognizing that there could be some exogenous shock that could cause us some problem, and leaving yourself a little leeway, that this more than any other single action could remove the uncertainties surrounding financial conditions in our own contry. It would bring down the rate of inflation; you would see the stock market soar; you would see the value of the dollar stabilize. I think you would see employment go up and interest rates come down.

So I just cannot think of any single thing that the Fed could do that would be more beneficial to this economy, and I just don't understand your hesitancy.

Mr. VOLCKER. In broad terms I have great sympathy with that. The difficulty and hesitancy in my mind—and certainly in the minds of many members of the Board—is that as you try to make the path more and more explicit, the greater these reservations and questions and difficulties arising out of what might happen in particular circumstances in the future, what institutional changes might take place, what outside shocks might arise. The more definite you become then, if you do have to change, the more you raise the question of how firm your intentions were in the first place. It is a difficult balancing decision.

In concept, I agree with you, and I welcome the emphasis that the subcommittees put on the necessity, over a period of time, to reduce monetary growth because I think that emphasis is correct. We can argue about how precisely to state that, with what degree of rigidity and narrowness, but broadly I think it is necessary to bring down those increases in the money supply; I don't have any quarrel with that.

Chairman MITCHELL. The Chair would like to observe, before calling on Congressman Leach, that I too face an enormous frustration in terms of the implementation of the Hawkins-Humphrey Act. While it is clear that this subcommittee, or indeed both these subcommittees, are supportive of moving monetary policy in the direction of 3-percent inflation per year, there is no discernible purposive action taking place right now to bring unemployment down to the 4-percent goal suggested by the Hawkins-Humphrey Act. Indeed, we are moving in the opposite direction. Both the Congress and the President have set forth policies which, I suspect, will inevitably result in an increase in unemployment to be borne disproportionately by blacks and Hispanics. Though that is really not under your control, I must share with you my sense of frustration in implementing just one-half of the Hawkins-Humphrey legislation.

Mr. VOLCKER. If I can just comment briefly on that, Chairman Mitchell, I think there is a good deal of evidence that the kinds of

level of unemployment that we reached in the aggregate in this country in the past couple of years may be about as far as we can go through aggregate demand measures without creating severe inflationary problems.

Now that leaves us with an intolerable unemployment problem, as you suggest, centered particularly in cities and urban areas, among minority groups. But it does seem to me that the great challenge in that direction is developing actions and programs that can deal with that very great unemployment challenge, particularly in our cities.

You live in Baltimore; I live in New York City. You go around those cities and see, on the one hand, a great need for things to be done and, on the other hand, great numbers of unemployed people. You have to recognize that something is the matter; how do we get those needs together with the people?

I feel very frustrated about our ability to do that through national monetary policy or national fiscal policy, but there certainly must be methods by which that problem can be met and it must be met more effectively than we have been doing.

Chairman MITCHELL. I will return to that later, but I am encroaching on Congressman Leach's time.

I recognize Congressman Leach for 5 minutes.

Mr. LEACH. Mr. Volcker, you point out that monetary policy is always going to be imprecise because what serves as "money" is not always constant. Would you welcome legislation authorizing the Federal Reserve Board to establish reserve requirements in non-banking areas where near-banking functions are performed?

Mr. VOLCKER. We have a piece of legislation that goes some distance in that direction, Congressman Leach, in the form of H.R. 7 in the House or Senator Proxmire's proposal in the Senate, and I very much hope that the Congress will act on that legislation in this session.

It does adopt as its basic point of departure that institutions doing comparable business—and particularly doing money-supply business, so to speak, holding transactions balances—should be subject to the same reserve requirements. The bills also provide that they would be subject to the same reserve requirement on their time-deposit business, to the extent they are covered at all.

Mr. LEACH. What about, for example, money market and travelers checks?

Mr. VOLCKER. Travelers checks, yes. But money market funds are a prime example of relatively new innovations that have come along, "new" in the sense of having any sizable quantitative impact.

I think it does raise some questions, while it is very new particularly, as to whether it is in effect a transactions account business and whether as to whether it is in effect a transactions account business and whether, over any period of time, institutions can have it both ways—do a transactions account business, but not be subject to, let's say, the reserve requirements applied on other institutions doing a transactions account business.

Mr. LEACH. You also point out in your testimony that the third feature of your October 6 announcement was placement of an 8-percent marginal reserve requirement on certain managed liabilities of the larger banks.

This strikes me as a bit of an anomaly because effectively it expands the Eurodollar market while at the same time creating a disincentive

for bringing some of these funds back here; therefore, it increases dollar availability abroad rather than at home.

Is this a policy that you expect to maintain?

Mr. VOLCKER. No.

Mr. LEACH. Is it only for the short term?

Mr. VOLCKER. The first answer I would give you is that these were measures taken to deal with a particular situation, at a particular time, and they do inevitably have some anomalies attached to them. They put impediments on the functioning of markets that create some distortions, and I would like to dispense with them as soon as practical, as soon as the credit expansion that has been fed by these instruments comes under control and as soon as I think there is a strong and clear signal that they have outlived their usefulness.

I don't expect the effects on the Euromarket, viewed in this kind of temporary context at least, to become really significant. There are some anomalies in that we do put on an inhibition—quite deliberately, as you suggest—on the use of Eurodollars back in the United States, while there is no similar inhibition on the flow of money from the American market into the Eurodollar market.

Now the smaller demand on the Eurodollar market for transmittal of those funds back to the United States will, in effect, have some influence on the incentives for the money to flow out, so I do not expect that to become a major problem in the time period we are talking about. But there are anomalies in the situation.

Mr. LEACH. Obviously higher interest rates impact differently across the economy, and most of us know the construction industry particularly housing, is hit the hardest.

Mr. VOLCKER. Right.

Mr. LEACH. Do you have any advice about how we might cope with this situation which in effect the Federal Reserve has, if not created, at least exacerbated?

Mr. VOLCKER. Let me start with one general comment just to put it in perspective. I myself believe that by attempting to deal with inflation more effectively over not so long a period of time, homebuilding and construction will be maybe less impacted than if we had just let the situation drift, because eventually they would have been subjected to a squeeze in these circumstances anyway, without any clear termination point.

But, given the situation that does exist, I think the question does arise as to whether some selected measures can't be taken, or should not be taken, to relieve some of the impact on the homebuilding industry if this period turns out to be at all prolonged.

There are a variety of techniques that have been used in the past, some of which require legislation and some of which do not. The Federal Home Loan Banks reduced their liquidity requirements some weeks ago; they have undertaken some additional borrowings of their own so that they can expand the level of advances to the savings and loans. In the legislative area, some special mortgage programs were developed in the 1974-75 period which I think are at least worth review at this point to see whether the time might have come where some of those programs might be triggered.

Mr. LEACH. But you do think interest rates will remain high?

Mr. VOLCKER. I would hope, ideally, they will not be, but we just will have to wait and see. I would like to see the situation resolve

itself and interest rates move in the other direction as soon as they can, but that will depend upon economic developments that can't be predicted with absolute certainty at this point.

One of the advantages that many people see in our new technique is that, should the economy move lower, there is some sense in which the credit markets ought to respond almost automatically—to use that word—more quickly toward the visible signs of declining interest rates and easier credit availability than might have been the case with the techniques that we were following earlier.

Mr. LEACH. Thank you, Mr. Chairman.

Chairman MITCHELL. Congressman LaFalce?

Mr. LAFALCE. Thank you very much.

Mr. Volcker, it is a pleasure having you with us. I believe this marks your first appearance before any subcommittee of the House Banking Committee, at least as the chairman—

Mr. VOLCKER. In this particular incarnation.

Mr. LAFALCE. I wanted to just ask you a broad question first. That is, how do you conceive of your role as Chairman of the Federal Reserve Board? And that is a difficult question to answer, but is it one primarily as the determiner of the monetary policy? Do you see yourself also as an outspoken advocate regarding not just the monetary policy but perhaps the fiscal policy, because they must mesh?

Do you see yourself as an independent spokesman on issues such as tax matters, spending matters, et cetera? Should you have a voice when it comes to issues such as rollback of social security taxes, tax incentives to spur savings and investment to help productivity?

How do you view your role?

Mr. VOLCKER. Let me say first of all, Mr. LaFalce, that I think the day when a central banker could be entirely in the background and disappear into the mist of some arcane traditions of central banking—seldom appearing in public, and if appearing in public only to make delphic statements—are probably gone. They are gone because whatever his personal predilections may be, that is not consistent with life in this particular democracy anyway and requirements to appear before the Congress and so on. But basically I—

Mr. LAFALCE. Are you drawing a distinction between a chairman who smokes a pipe and one who smokes a cigar?

Mr. VOLCKER. No, not at all. All the smoking chairmen have been out in public, I am afraid, one way or another, whatever they smoked, and I think it is probably a good thing—

[Laughter.]

Mr. LAFALCE. You are not suggesting—

Mr. VOLCKER. No, no—

[Laughter.]

Mr. VOLCKER [continuing]. There was nothing devious about that suggestion.

And I think it is probably a good thing. You have to be out; you have to be a spokesman and defend your policy and explain what you are doing because the success of the policy depends upon understanding. That is why I value so much the dialog with these subcommittees and the emphasis that you have placed upon this basic relationship between money and inflation over a period of time.

Now the degree to which a chairman wants to get outside the monetary policy area is another question. It seems to me, in general terms, a chairman can't help but refer to key elements in economic policy that impinge upon his own job and impinge upon the outlook for the economy. At the same time, there is some vague dividing line, in my judgment, as to avoiding issues that are a matter of great political and social debate. Economic repercussions of such issues are one thing, but one's own competence in dealing with the political and social aspects of an issue I think is properly limited and should not be a matter of public discussion.

Mr. LAFALCE. Well, leaving you discretion to act with what I perceive as an expansive role, but exercised prudence, I have a number of concerns and I would ask for your opinions on these concerns.

First, I really think that our legal regulatory framework, as it has historically evolved, has created incentives for consumption and disincentives for savings, to a certain extent; and your new monetary policy, if I can call it that, certainly strives to curb, in part, speculative consumption. I am wondering what else we ought to be doing, both in the fiscal and monetary policy, to encourage savings and investment with an appropriate balance.

Mr. VOLCKER. I have no hesitancy about speaking in very general terms about the need for tax programs that do address the balance of investment and consumption. It seems to me the tax structure that we have lived with during the postwar period—that we inherited in good part in World War II, and modified through the years—is almost peculiarly designed to impinge upon investment. Investment has been heavily taxed.

As we find it possible to make tax reductions—and we hope that that becomes possible, even though the time is not now—I hope that increased emphasis will be put on investment incentives in particular. I tend to think the savings will flow if the investment incentive is there, and I put the emphasis on the “investment incentive” side, rather than the “savings” side.

Mr. LAFALCE. Well, I appreciate that, and I think that is probably something that most Congressmen could and would assent to with no pain whatsoever, to give incentives to someone, but I don't want it to affect one side of the equation. But what about doing something that would affect consumption by way of addressing ourselves to tax policies that presently give an incentive to consume, and perhaps limiting that.

Mr. VOLCKER. Are you thinking of the “value added” tax?

Mr. LAFALCE. Well, no. I am talking about the fact that we now can deduct every penny of interest on borrowed money, and certainly we are having government subsidy of debt, and private debt has increased tremendously, as has corporate debt, which could not be altered, corporate debt would be written off as a business expense—

Mr. VOLCKER. Correct.

Mr. LAFALCE. But is it desirable to do something about the private debt? What is your position as to the import of that?

Mr. VOLCKER. You are really getting into an area where perhaps I should not comment in detail, but I would not think the deductibility of interest on the Federal personal income tax is a major problem in this connection. Indeed, I think it is rather difficult to deal with interest in any other way, because clearly borrowings that are undertaken in an effort to increase income, as by a business, should be

deductible. But where can one draw the line between what is properly deductible and what is not?

I suppose a tax reformer would tell you that the proper way to approach that problem might be to impute the income on an owner-occupied house, as some foreign countries do, but that is an area where I am just really not competent to draw up a tax reform program at this stage.

Mr. LAFALCE. I ask the question only because it seems to me that we must do something on a fiscal basis insofar as our legal framework is concerned to mesh with what you are attempting to do with your monetary policy.

Mr. VOLCKER. Yes, I agree with that, but I have not myself appreciated the problem so much as one of a specific exemption or incentive that is given to consumption through the income tax, as one of the general balance between various types of taxes; and taxes that are placed on investment seem to me pretty heavy.

Chairman MITCHELL. Congressman Ritter?

Mr. RITTER. Thank you, Mr. Chairman.

I would like to thank Mr. Volcker for coming before our subcommittees today. I know a lot of my constituents all of a sudden are very interested in interest rates who probably didn't understand too much about—

Mr. VOLCKER. Certainly.

Mr. RITTER [continuing]. Interest rates, since the October 6 act went into effect. Many people consider that the Fed's restraining actions, however, are only part of the picture. Many of my constituents are more and more coming to the opinion that the Government spending and the deficits arrived at are root causes of inflation, and that the Fed's measures wouldn't be so harsh, or considered to be so harsh, if the Congress itself was doing its share and restraining itself fiscally.

I am just wondering what you think about the relationship between what you are doing now and what Congress has done or has not done in the recent past, and whether or not—the second part of the question is: Should the Fed treat monetary policy in some way divorced from the fiscal responsibility of others are you not in a sense covering up for the past mistakes of the Congress in simply spending well beyond its means and achieving deficits of a national debt worth \$900 million?

Mr. VOLCKER. I am not sure I agree with the words "covering up." In some sense—

Mr. RITTER. No; "covering up" is the wrong phrase.

Mr. VOLCKER. We have to deal with the situation—

Mr. RITTER. It is "compensating for."

Mr. VOLCKER. To some degree, I think that is true. In that sense we are at the end of the line; we have to evaluate everything else that has gone on that impinges very much on inflation and the performance of the economy including, most importantly, fiscal policy. I mean, there is no question in my mind that a more restrained budget over the years, smaller deficits over the years and maybe some occasional surpluses at least, would have made our job easier and resulted in less of an inflationary problem than we now have.

I just want to draw a distinction between what has happened over a large number of years and what is happening currently. In a sense,

fiscal policy also inherits the past, as we inherit fiscal policy. In the past year or two, I think a good deal of progress has been made in restraining inexorable growth in government spending and reducing the size of the deficit. We started from a very unsatisfactory situation, but if you ask me whether, as a practical matter, a great deal of progress can be made right now toward balancing the budget or indeed reducing expenditures in a 1-year time period, I would have to say I doubt if anything dramatically different could be done. But it is very important, over a period of years, that we keep at this and, as with the money supply figures, hold out that target of getting the deficit down toward zero; I think we have to hold that target out in front of us in fiscal policy, too.

Mr. RITTER. Being a new Member and watching the way the Congress authorizes, appropriates, and then votes on legislation requiring that Government spend money, it really seems to me that what we are talking about is needing more congressional discipline because of rampant double-digit inflation. I haven't seen it. I may be missing something, not having been here over the years, but it seems that the kind of free-spending ways of Congress—I hate to use a cliché—but if there is a perceived need, then Congress will come along and spend that kind of money. We've just gone through this in a number of areas—energy being one, fuel stamps another—nobody even talked about where these funds were coming from. It's as if they were there in some unlimited sinkhole of money.

Mr. VOLCKER. I suppose it depends upon one's personal perspective. I suspect you might have been even more discouraged 5, 10 years ago. Congress has gone through this process of establishing the budgetary committees and bringing together a budgetary resolution. It's always hard to identify concrete results, but I feel somewhat encouraged, on balance, by the sense of concern that I think I have observed in the Congress about spending and about the deficit in general relative to earlier periods perhaps; I have been encouraged by the budgetary process.

Mr. RITTER. I know my time is up, but I have one other observation. Is it possible that by the Federal Reserve taking its actions which deal essentially with borrowing and credit in the private sector, we further overburden the mix between private and Federal toward the Federal?

In other words, the Federal continues more or less unabated or at a very, very different rate of expansion, and the private gets—

Mr. VOLCKER. If that happens, I think it is bad. If you had to persist with this kind of pressure on the private credit markets for a long period of time, I think that danger would exist and only reinforces your basic point of the need for restraint on the governmental side.

Mr. RITTER. Should the Federal Reserve be telling the Congress in no uncertain terms to put its own house in order fiscally?

Mr. VOLCKER. There is no question that the more responsible the Congress and the Executive are on the fiscal side—in very concrete terms, the less money that you spend for the Government, the smaller the deficits are—the easier our job will be in dealing with inflation and the more ample the supply of funds will be in the private markets. I think this has consequences over a period of time for the productivity of the American economy—

Mr. RITTER. Absolutely, and I think it has had consequences in the past 10 years as we have seen declining rates of productivity.

Mr. VOLCKER. And, in a sense, the most serious manifestation of the problems that we have had in recent years is the fact that productivity seems to be declining so inexorably; in the past 12 months or so, it has actually been negative.

Now I hope that is a temporary phenomenon, but unfortunately—

Mr. RITTER. I think you should voice this in both Houses of the Congress on this matter.

Thank you, Mr. Chairman.

Chairman MITCHELL. Thank you, and I think past Chairmen, or Chairpersons, of the Federal Reserve have indeed spoken to the Congress issuing admonitions and warnings in terms of how we conduct fiscal policy, but this morning's hearings are primarily centered on monetary policy.

Mr. Volcker, it is clear that you are suffering from a cold. Could you stay for one more round of questions?

Mr. VOLCKER. I will stay as long as you like. Just ignore the occasional cough, Mr. Chairman.

Chairman MITCHELL. I would suggest that we just take one more round of questioning, and then after that we can reduce our questions to writing and submit them to you for the record.

Mr. VOLCKER. I am feeling perfectly well—I may not sound that way, but I am—so don't.

[Laughter.]

Chairman MITCHELL. Let me assure you it is just the compassionate side of Chairman Mitchell that has demonstrated itself this morning.

[Laughter.]

Chairman MITCHELL. Let me get back to monetary policy. I have two questions—one with reference to unemployment; the other with reference to whether you have room to maneuver in regard to M_1 growth between now and the end of the year.

I recall when Mr. Miller was in your spot, and I also recall when Mr. Blumenthal was the Secretary of the Treasury; they both appeared before this subcommittee in hearings and I posed the question to them that I am going to pose to you this morning: If indeed unemployment should reach $7\frac{1}{2}$ percent, or 8 percent, or 9 percent at the extreme, in 1980, what would you do? Do you anticipate any increase in your money growth targets? In your open advocacy role with few restraints on it, would you suggest to the Congress that we pinpoint programs to directly employ the unemployed? More specifically, would you support a countercyclical fiscal program if we reached those astronomical rates of unemployment?

Mr. VOLCKER. It is always difficult, as you will appreciate Mr. Chairman, to try to answer a question of that sort, triggered only by a single number, because another part of the question that immediately occurs to me is: unemployment is at $7\frac{1}{2}$ or 8 percent—whatever number you use—but what is the outlook? And my response to the question would be quite different if I thought that 8 percent were the bottom and it was immediately going to begin rising, or whether there was a big question about whether that was the case. I think you can recognize that it is almost impossible to answer, in a fully satisfactory way, that kind of a hypothetical question.

Let me say, so far as monetary policy is concerned, under those kinds of conditions you would expect, quite naturally, a free flow of credit, lower interest rates, significantly lower than we have now without

artificially increasing the money supply—maybe “artificial” isn’t the right word—but without consciously increasing the money supply at a greater trajectory than had been planned.

I would suspect that monetary policy would have made its best contribution by encouraging the thought that over a period of time we could achieve these lower rates of monetary growth that are necessary—as we were discussing earlier—while permitting the easier market conditions to show through and to influence spending in the economy.

Now whether or not, on the fiscal side, programs would become necessary, it seems to me terribly important—in line with a conversation I just had with Mr. Ritter—that we be extremely cautious about programs that add to spending over a period of time and that may not even be cranked up, so to speak, until the most urgent time has passed, but rather leave us with a new trajectory of Government spending or a new level of Government spending that would create difficulties in the future.

On the other hand, going back to the earlier conversation with Mr. LaFalce, if it is true that we need programs—either spending or tax programs, although one tends to think of tax programs perhaps as being larger—that can contribute to the productivity of the economy over a period of time, can contribute to needed investment activity, can contribute over a period of time to solving some of those structural problems which you and I were addressing earlier on the unemployment side, there is obviously more opportunity to do that kind of thing if the particular timing makes sense in the overall cyclical situation.

So I think you would think about programs that have their own justification in the long run, that have a high payoff in the long run, and therefore have their own rationale as being the kinds of programs that you could think about if their particular timing makes sense for the economy generally in adverse cyclical circumstances.

Chairman MITCHELL. Thank you very much for that answer. I must confess that I was somewhat perturbed by the responses that Mr. Miller and Mr. Blumenthal gave last year and the year before. They appeared to say that no matter what happens we are going to stonewall it. I believe that kind of rigidity was not desirable.

Mr. VOLCKER. It depends on what you are stonewalling, I suppose. There are things that I would like to stonewall, too; but my caveat is that programs considered be truly constructive for the long term.

Chairman MITCHELL. I understood you loud and clear—“and targeted.”

Mr. VOLCKER. Right.

Chairman MITCHELL. Many politicians, as well as economists, are saying that as a result of the policies that you instituted on October 6, there really is relatively little maneuvering room for M_1 growth between now and the end of the year. As a result they fear a credit crunch. I am inclined to disagree with that. Your target range this year for M_1 growth has a 6-percent ceiling. True?

Mr. VOLCKER. Right.

Chairman MITCHELL. Now it would appear to me that even if you achieve 5.5 percent M_1 growth in 1979, the volume or stock of M_1 money could average \$381 billion in November, and around \$383 billion in December. In October it averaged \$379 billion. Thus it

seems to me that you have ample maneuvering room for M_1 to grow to prevent a credit crunch. Is that a correct assumption on my part?

Mr. VOLCKER. I do not have those precise numbers in my head at the moment, Mr. Chairman, but we obviously thought it was possible to meet these targets without a crunch. Even acting as we did in October, which didn't leave us much room before the end of the year, we were not for the year as a whole appreciably above our target. The trajectory was moving very rapidly above the target, but we didn't face the problem of actually having to curtail the growth of money to meet the target this year. We still had room for growth in the 4- to 5-percent area on a monthly basis from September to December, as I recall the numbers, which seemed feasible and I still think is feasible.

Now what we don't know right now—and perhaps will never know perfectly—is how closely we can really control the money supply on a month-to-month basis. We certainly can't do it on a week-to-week basis. I am sure we can't do it at all perfectly on a month-to-month basis. We have a quarter to work with here; we expect we can get somewhat better control over the quarter. The figures we have are consistent with our objective, but it is certainly too early to tell.

But, basically, I think it is reasonable to expect we can meet that objective. In this uncertain world, I won't say it is 100 percent certain; it is not. We will see what November and December bring, but I think we have a reasonable chance of reaching it.

Chairman MITCHELL. Thank you. My time has expired.

Mr. VOLCKER. Particularly for M_1 . I might say, the M_2 number has been running further above the target than—

Chairman MITCHELL. And let me say, I don't think there would be a great deal of hue and cry in Congress if you got up to 6.5 percent.

Mr. VOLCKER. The 6 percent itself is based upon a particular estimate of NOW accounts and ATS, and is going to have to be reviewed again; so that figure may vary a little bit, but it would not be very much.

Chairman MITCHELL. Thank you. Chairman Neal?

Chairman NEAL. Mr. Volcker, what relationship do you see between the value of the dollar on exchange markets and U.S. interest rates? What has happened to the dollar exchange market since October 6? And what would you expect for the future?

Mr. VOLCKER. Since we took our actions—more explicitly, since a few days before we took the actions when they were widely anticipated—the dollar was up 3 or 4 percent across the board, as I recall the numbers. That reaction has certainly been satisfactory. The dollar has been quite steady in the markets; it hasn't required any intervention.

In general, as I suggested in my statement, I don't see that much difference between our so-called international objectives and our domestic objectives, because they are both very much related to the inflationary problem.

Now all other things being equal, a change in relative interest rates—in this case, higher interest rates in the United States relative to abroad—will help the dollar, but that is only one of a number of influences; it can be swamped by negative influences, or it can be unnecessary if other influences are strongly positive.

In this case, what I think is most crucially important, is whether there is some confidence that we can deal with this inflationary problem over a period of times and whether our balance of payments will get better. And, so long as there is confidence in those two developments—I don't think there was much confidence in the summer, but as confidence can be restored—the dollar in the exchange markets, in my judgment, will not be terribly sensitive to small changes in the absolute interest rate differentials, because these other factors can well be more important or more constructive in terms of the outlook for the dollar.

[Chairman Volcker subsequently submitted the following information for inclusion in the record of the hearing:]

Looked at another way, the dollar might strengthen as our inflation rate declines. With lower U.S. inflation, U.S. interest rates may decline relative to those abroad, consistent with a strong dollar.

Chairman NEAL. On another subject, if I can, I understand that you played an instrumental role in setting up United States and international monetary policy during the period in the early 1970's when we left the fixed exchange rate system and changed the rules of the IMF to permit floating exchange rates.

Many economists and officials, particularly in Europe, have come to the conclusion that floating exchange rates don't work. Within Europe, they are trying once again to establish the fixed exchange rate regime, and many voices are calling for a more tightly managed exchange rate system between Europe, the United States, and Japan.

Have floating exchange rates failed?

Are there specific reforms we should pursue in the international monetary system in addition to domestic—well, to make floating exchange rates more stable?

Mr. VOLCKER. Let me give you a general answer to that very important question—which we could go on discussing for hours.

The major difficulty, in my judgment, with the floating rate system was not "floating rates" in and of themselves. We are living with floating rates; they have worked in a very real sense. But it does seem to me that many people interpreted them as a kind of license, as meaning that all international constraints were eliminated. It seems to me that is patently untrue. If you are going to live in an interdependent world and a highly integrated world, you cannot escape the consequences of living in that world, and some of those consequences come to you, if you ignore this fact, through highly volatile exchange rates, which in turn feed back on the behavior of your own economy.

I think that basic truth was pretty much ignored for a period of time. We were in a floating exchange rate system and that was true of some other countries; we felt a wonderful sense of freedom at having eliminated an international constraint. It affected our behavior, but we found out in the end that the snake came back and bit us when the exchange rates got highly volatile and began undermining what we were trying to do at home and undermining, I think, the position of the United States in the world at large.

I think the floating exchange rate system, as a technical matter, can work well. It probably worked during this period better than any other system we could have conceived. I think it could work well in the future, but I don't think it implies that we can ignore signals from the

international side that seem to indicate there are problems either in the domestic economy or arising elsewhere that need attention. If those problems aren't given attention, we will find that this system turns out to be highly volatile and will give us more problems.

Chairman NEAL. Mr. Volcker, did you have a chance to look at the hearings record, or are you familiar with the hearings record that our two subcommittees had earlier in the year on the Eurocurrency question?

Mr. VOLCKER. I don't believe I have looked at that specific record.

Chairman NEAL. I commend it to you, as something you may be interested in, and I would have a question, which I will try to phrase as broadly as I can:

Would you see the growth of the Eurocurrency markets as being threatening in general terms to our domestic rate of inflation? Or do you see any problem there that we are losing so much control that the system might just fly apart?

This is a vague kind of concern.

Mr. VOLCKER. Let me give you a general sort of answer to a vague kind of concern. I don't think it is an acute problem, but I do have reservations and concern about the growth in the Eurocurrency markets over a period of time.

We still tend to think, rightly, that the Eurocurrency market is kind of the tail on the dog; that the Eurocurrency market—or the Eurodollar market, specifically—reflects pretty accurately conditions in the U.S. dollar market; that the markets are very closely linked and the conditions prevailing are comparable. In that sense, it is not a matter of a major escape valve for the effects of all our policies, for instance.

But, as the markets get bigger and bigger, you wonder if some day the tail will become the dog, rather than the reverse.

The analogy that in my mind is appropriate to the Eurodollar market is to think of it as a very large nonmember bank or group of nonmember banks. That presents the same kind of problems that nonmember banks present, in my judgment: They are outside our direct framework of monetary control. It doesn't mean they're not influenced by it, but as the area of direct control gets smaller and smaller relative to the total, it does over time, I think, create some problems.

Chairman NEAL. What would be your primary concern? Its influence on our domestic rate of inflation?

Mr. VOLCKER. There are two general types of concerns. I was really addressing myself mostly to the concern that it may make our control over money, quite specifically, less precise than it would otherwise be. Here is a big area of money creation—potentially, and to some degree, actually—that escapes our direct influence—not our indirect influence, but our direct influence—and therefore may inadvertently lead to either an expansion or, conceivably, under some other conditions, to a contraction of a sort that really had not been contemplated or easily controlled.

The other area of concern is what tends to be called by central bankers the "prudential concern": How safe and sound are the institutions in the Eurodollar market—and, of course, mainly branch offices or subsidiaries of American banks.

We tend to look at those Eurodollar entities as part of the bank itself. We examine them, exercise surveillance over them on the same basis as we do over domestic institutions. That has not been the practice with all other countries, and there has been a good deal of discussion recently about the need for more systematic appraisal of all the institutions in those markets—all the major institutions—as, in effect, arms of their home office wherever that may be. More systematic efforts are now being made by virtually all countries to deal with that safety and soundness issue in the Eurodollar market.

Chairman NEAL. Thank you. My time has expired.

Chairman MITCHELL. Congressman Leach?

Mr. LEACH. This was a concern I intended to pursue, and I would be happy to yield my time if you care to pursue it.

Chairman NEAL. Well, one brief comment. I would be most grateful. During the series of hearings we were specifically holding on Congressman Leach's bill, which would impose reserve requirements on Eurocurrency banks, and I came to think that would be very difficult, if not impossible, for us to do. But I don't know that the solution to a serious problem occurs to me. Do you have some thoughts on that?

Mr. VOLCKER. This is a matter which has been under discussion among central banks. It is under discussion currently. I think it is, if not impossible in a technical sense, futile for us to think about doing it for our banks alone, because the business will just go elsewhere. Reserve requirements are a kind of tax in their impact on banks, and by putting that kind of competitive impediment on our banks—

Chairman NEAL. I think that his idea was broader than that.

Mr. VOLCKER. That involves getting the agreement of a large number of other countries, and there have been at least exploratory conversations along that line. There is a good deal of resistance to that approach among some other countries, and it is a matter which, in my judgment, will remain under some discussion, but I do not foresee an early resolution.

Chairman NEAL. If that approach won't work, what would you recommend?

Mr. VOLCKER. There are alternative methods of going about this which have surfaced in the course of these discussions. Some countries, for instance, are quite interested in the idea of establishing fairly definite—just how rigid or precise remains a question—but fairly definite capital requirements which would, for their banks, encompass their operations in the Euromarket, as well as their operations domestically. That fits in with the banking traditions of some countries, and one can imagine approaches along that line that would have a grossly equivalent impact in terms of limiting the growth of the market over time. It might have a different result in any particular cyclical situation, or in terms of achieving a policy objective in a limited period of time, but it certainly could be a very effective method of limiting growth over a period of time.

There are other concerns about the liquidity policies and measures taken by institutions within that market and about whether additional official surveillance over liquidity might not be desirable. Now that is an area that kind of overlaps the issues of the prudential concern—the safety and soundness of the institutions—and the monetary control concern.

I cannot go much beyond that, frankly, because these discussions are at a point where some studies have been developed that I have not seen, much less absorbed, at this point. I think these will be useful, and light will be thrown on these issues, as we have a chance to evaluate some of the analytic and statistical work that was done in exploring these different approaches—reserve requirements, capital ratios, liquidity ratios, and so on.

Chairman NEAL. I thank the gentleman for yielding.

Chairman MITCHELL. The gentleman's time has expired.

Chairman NEAL. I thank my chairman for yielding.

Chairman MITCHELL. The Chair generously will recognize Congressman Leach for 5 minutes.

Mr. LEACH. I appreciate that, Mr. Chairman.

You aptly make a "the tail wags the dog" analogy. One of the points which almost everyone who appeared last summer before these subcommittees made was that, as you have noted, the problem is extraordinarily acute. The Euromarket has grown at an annual rate of 25 percent since 1970 to the point where in gross terms its size is presently around \$1 trillion. If that growth rate is maintained, and it could well increase, the Euromarket will enlarge to \$8 trillion within a decade.

Under those circumstances, is there a point in your judgment when action is mandatory? In particular, one aspect of the overall discussion in which the Federal Reserve Board has taken the lead, is the apparent certainty that some time period is going to elapse before any type of new controls take effect. Do we have sufficient time to deal with this problem area? At what point, in your judgment, do you think controls will be needed, if they are not today?

Mr. VOLCKER. I don't think there is any trigger point that makes this go from a manageable situation to a crisis, and I don't anticipate that kind of crisis or emergency.

Let me say, in terms of the growth of the market over time—and I think it would be unfortunate if these extremely high rates of growth relative to the domestic markets continue—that we should not be looking just at the Euromarket. I think a relevant question is: What are we doing to our domestic banking system that makes it competitively so desirable to operate abroad? We ought to at least look at that side of the equation; maybe that is where the problem arises. Now I don't think that is wholly true, but there may be some truth to the suggestion that we overregulate or place too high reserve requirements at home and thereby drive that business abroad. That is the way many foreign countries look at it. They say: "Look, you want to do something about the Euromarket? It seems to us sensible you do something about your home market, because you are driving the business abroad, before you ask us to take all these distasteful measures, not only against your banks but our own banks."

Now I do not think that is the whole truth, either. But the problem, as I see it, is that we create competitive advantages to doing banking business abroad. We do it both by not applying some regulations on the Eurobanks, but also maybe by applying too many regulations on our domestic banks.

We can look at both sides of the problem; it doesn't make sense to me, over a long period of years, to continue to stimulate the growth of the Euromarkets artificially at the expense of our domestic market.

Mr. LEACH. Let me just ask one other question in this vein. On the other side of the ledger is the prudential concern and certainly the Federal Reserve and the other central banks are looking much more carefully at this issue. When you consider the currency amounts, primarily dollars, involved, currencies are being directed, and the real possibility of an international recession, does it strike you that, even with greater central bank scrutiny, other countries, probably more so than the United States, may have very real difficulties in the next 2 or 3 years with their banking systems, and that there may be some spillover effect in this country? Or do you think that scenario is very unlikely?

Mr. VOLCKER. It seems to me remote. The central function of central banks, whether they are in the United States or elsewhere, is to deal with this kind of ultimate liquidity pressure that I suppose you're foreseeing here; and overall, I think we are equipped to do that job now.

Mr. LEACH. Thank you, Mr. Chairman.

Chairman MITCHELL. Congressman LaFalce?

Mr. LAFALCE. Thank you, Mr. Chairman.

Mr. Volcker, I have three questions.

First, I am very concerned with the disintermediation that has taken place in our thrift institutions in the United States, particularly in the Northeast—and the Northeast, which is really New York and Massachusetts. Another reason for this of course is the higher interest rates, available money market certificates, but most especially the geometric increase, as opposed to the arithmetic increase which has taken place in money market funds.

In your letter to the chief executive officers of October 23, you warned—the chief executive officers of the financial institutions—you warned them against speculative lending. And I can think of fewer locations for speculative sources of funds than Merrill Lynch or Bache, or what-have-you, money market funds. One possibility you discussed was the imposition of reserves on transaction accounts, and the defining of money market funds as “transaction accounts”—and the difficulty there is they immediately get out of the so-called transaction account business, which is almost exclusively a marketing device rather than anything else.

So while I am in favor of deregulation of regulation Q, phased in over a period of time and in an appropriate manner, I don't know that we would have any recourse if we are going to do something about this effectively—both to curb speculative usages of money, and to prevent the disintermediation to take place—other than to bring money market funds under a legal regulatory framework, perhaps similar to regulation Q. Your opinion?

Mr. VOLCKER. Let me say first that I agree with the comment you made about the transactions account side of this. I think that approach might have some sense as a basic regulatory, structural approach, but I don't think it is going to end the problem you referred to as the “money market fund” problem in terms of its attractiveness at the moment.

I would be reluctant to take measures that were not justified in terms of the longer term structure of the financial industry and longer term trends in dealing with this situation at this point.

The only real solution, as you know, is getting into an environment in which interest rates can come down again, and the thrift institutions can again become competitive, and the mortgage lending instrument becomes an attractive vehicle for them to put funds into the market. There is no other easy solution, it seems to me, of trying to manipulate these funds, partly because it does run against the grain of what we would like to see in terms of freeing the market and permitting competitive forces to work.

So at this stage at least, I don't think we are able to go in that direction.

Mr. LAFALCE. The difficulty I have is that, while I favor the long-term goal, any phaseout plan is usually conceived of in approximately a 10-year period, perhaps given appropriate economic circumstances, left. And what do we do about the disruptive effects—

Mr. VOLCKER. In the short run.

Mr. LAFALCE [continuing]. In that short run? And the short run is not all that short. We are talking about a 10-year period, and it seems to me we must address ourselves to it.

Mr. VOLCKER. It is not necessarily 5 or 10 years; that all depends. If you assume for this 5- or 10-year period we are going to have increasing inflationary pressures, then we will have the problem for 5 or 10 years. I don't make that assumption. I would like to think that we are going to have 5 or 10 years of lower interest rates than we have just experienced, in which case this problem will be a negligible one.

Mr. LAFALCE. Well, let us switch to another problem which certainly concerns that.

Yesterday the President decided that we would not purchase any more Iranian oil. About an hour later, Iran said they wouldn't sell us any more Iranian oil. I would query the effect of what that is going to be—but whether it does or doesn't have an effect, certainly there is going to be a meeting in December of the OPEC nations, and I think it is safe to assume that we will have a minimum increase of 10 to 15 percent and probably, in my judgment, higher.

Now if my judgment of "probably higher increases" is accurate—and I hope it is not—so that we have a 25- to 30-percent increase, we certainly are going to get a higher increase from Saudi Arabia that has been behind in its price schedules; it seems to me that Iran will probably be selling a lot of its oil in the spot market—I don't know—but what is going to happen insofar as the U.S. monetary policy, come December, should there be a 25- or 30-percent increase in the OPEC oil prices?

Mr. VOLCKER. Let me say, first, that I think this oil-pricing decision and the behavior of oil markets in coming months is a very crucial determinant of the outlook for the economy—not just next year, but for a period of time, and not just the American economy.

We seem to be in a situation where there has not been any shortage of oil in the markets, in the sense that production is up to consumption; as nearly as one can tell, it seems to be in excess of consumption by a limited margin. But there is a great desire for stockpiling out of fear of higher prices or interruptions in supply, and my concern is that that stockpiling, which keeps the spot price very high, brings about the very conditions that people fear—that is, the pressures on prices, whether in the form of that OPEC decision in December or the decisions the countries have been making on an ad hoc basis.

We have set up a situation here, inadvertently, where oil prices may rise higher than the underlying market over a period of time would justify. That distorts and hampers what we are trying to achieve in this country, puts additional burdens on developing countries in a severe way, and undermines the chances of reaching an orderly economic adjustment and a fairly prompt turnaround of the inflationary situation.

I am not in a position to speak with any precision at this point about just how it affects monetary policy. I hope the large price increase does not come about.

I think that is one reason why we were perhaps fortunate to have taken the measures that we have already taken, which hopefully to some degree minimize the chances of a large increase happening at all, but also put us in a little better posture for absorbing what price increase there might be.

All things equal, the bigger the oil price increase, the more pressure there is, obviously, on the inflationary front, and the more need there is for money to finance the normal turnover of business activity. This would therefore, to some degree, impinge upon the judgment that we have to make about, let's say, the target for the money supply next year—if the decision really were outside the framework in which people have been thinking.

It would be extremely unfortunate in my judgment—and not just for the monetary policy reason—to have a very large increase in oil prices on top of the 60- or 70-percent increase we have already had this year. I am not sure there's enough appreciation in this country of the risks and dangers in that situation, whether one is worried about unemployment, inflation, the vitality of the world economy, the prospects for the developing world, or other issues. There is a point when these prices have gone up rapidly enough, and far enough, so that enough is enough.

Chairman MITCHELL. Congressman Ritter?

Mr. RITTER. Thank you very much, Mr. Chairman.

This is a kind of short-term approach to my first question. Apparently the Treasury will have a difficult task over the next several months—I understand some \$30 billion in money would have to be borrowed—that this is in addition to drawing down present cash balances. This is going to put additional pressure on interest rates.

Can the Fed stay on course in the face of these things?

Mr. VOLCKER. Yes.

Mr. RITTER. These credit demands and still hold the interest rates in moderation?

Mr. VOLCKER. I think "yes" to both sides of that question. The Treasury is facing some large seasonal needs for funds—of course, it is related to the deficit, but there are seasonal needs on top of that—but I do think that those demands are manageable.

Now, if you present me with a couple of hypotheses that say business activity at home is going to continue to expand, and we will have the kind of oil price increase that Mr. LaFalce was worried about, then we are going to have problems; those problems are not solely traceable to that Treasury financing, but that would be a further complication.

Mr. RITTER. But you don't think that the—

Mr. VOLCKER. I am hopeful that—

Mr. RITTER. [continuing]. Pressures to be to that extent.

Mr. VOLCKER. I am hopeful that we will not have those kinds of pressures.

Mr. RITTER. Thank you.

Chairman MITCHELL. Mr. Volcker, at the end of my last question to you, you talked about the area of maneuverability that you would have with money growth between now and the end of the year. I want to pursue that a bit further.

If we include ATS accounts as "money," that changes your ceiling, does it not, from 6 to 7½ percent growth for this year, or roughly that?

Mr. VOLCKER. I am trying to think of the right way to phrase this. We have ATS and NOW accounts coming out of traditional measure of M₁. We would have had a ceiling of 7½ percent had we not had ATS and NOW accounts. But that is not quite the same as saying: put ATS and NOW accounts back in M₁. You get a higher number if you do that.

We only estimated the amount of ATS and NOW accounts that came out of demand deposits, and some of them from out of savings accounts. If you put that whole total back in the money supply, you get a bigger number than the 7½ percent.

Chairman MITCHELL. The point I am trying to get at is that, even if you have a larger number than 7½, you still have maneuvering room between now and the end of the year, do you not?

Mr. VOLCKER. We have maneuvering room in the sense that the current money supply is less than it would have to be in December to still be within our targets.

Now when you speak of "maneuvering room," it makes me a little nervous, because I picture your having an image of a situation where we could maneuver from week to week and month to month and hit a money supply figure; I don't think we can do that. We can influence it on a monthly basis, but we don't know how closely we can hit that.

So we have room, yes. I don't like to call what we are doing "maneuvering." We are "aiming" at some gradual growth during this quarter. We have room for that. Just what happens on a month-to-month basis—

Chairman MITCHELL. That is the only point I was trying to make.

Mr. VOLCKER. Right.

Chairman MITCHELL. If you need to grow, then there is room.

Mr. VOLCKER. We have room for some growth between now and the end of the year; that is right.

Chairman MITCHELL. Chairman Neal?

Chairman NEAL. Yes, I just have one closing comment.

Throughout your testimony, and your responses to my questions about bringing down the rate of growth in the money supply, you over and over again agree that this is an essential element of your policy. You say that in crystal clear terms—

Mr. VOLCKER. It is an essential element of a noninflationary policy.

Chairman NEAL. That is right. I think I am convinced that you are sincere in this and I think it is critically important—but it also seems to me that it would be so beneficial if you would make a very strong statement about your dedication to pursuing such a policy in your own way. In other words, if you have to qualify it by saying, "except under certain conditions," or something.

Mr. VOLCKER. I suppose it is the qualifications that get you, in trouble.

Chairman NEAL. I understand that, but just leaving yourself a little room to maneuver, but the strongest possible statement that would put the American public, the Congress, the central bankers around the world, everyone who has an interest in this, that you do mean business and you do intend to pursue this policy.

We will be following it closely from this side, and if the policy is not pursued, we will be making some noises about it, but you know that is not nearly as important as what you are doing and saying.

Mr. VOLCKER. But it is terribly important that there be an understanding of the basis of these policies, because you don't carry forward these policies in this country without the kind of support that the subcommittees have been willing to give.

Chairman NEAL. Well, I wish you would give that some thought.

Mr. VOLCKER. I will indeed, and certainly this is a matter which you can be assured is discussed and will be discussed very closely in the Open Market Committee, because we have to adopt these targets—if not for the 4 years that you are talking about, for 1980; and the middle of 1980, we are going to have to adopt a target for 1981. That is part of the procedure. We usually have a little debate about what we say about targets beyond that: There are those who say precisely what you are saying, maybe even stronger; and then there are those who say, "But there are all these contingencies, and what will it do to our credibility if we don't meet the target next year," and so on.

Chairman NEAL. I understand those considerations, and I just want to say that my only problem is that I have sat here now for 5 years and listened to wonderful men—Dr. Burns, Mr. Miller—say essentially the same things that you say about the economy and the need for restraint and so on, and yet not see that reflected in policy.

Mr. VOLCKER. I understand.

Chairman NEAL. I know it was ongoing before I got here, and I deeply appreciate your efforts. I don't think that the President could have found a better man in the world for the job, and I certainly wish you every success. We will try to support these kind of sensible anti-inflationary policies from this end.

Mr. VOLCKER. I do very much appreciate this opportunity to be here this morning, Chairman Mitchell and Chairman Neal, and I look forward to coming back.

Chairman MITCHELL. Let me just indicate that the degree of participation on the part of the members, and the number of questions we raised, should be demonstrable evidence of our intense interest in this area. We have worked very well with the Federal Reserve over the past couple of years, and we certainly anticipate that continued good harmonious working relationship.

Mr. VOLCKER. I very much look forward to it.

Chairman MITCHELL. Thank you so very much for being here with us.

[Whereupon, at 11:30 a.m., the hearing was adjourned.]

MONETARY POLICY

GOALS AND CONDUCT FOR THE 1980's

TUESDAY, NOVEMBER 27, 1979

HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON DOMESTIC MONETARY POLICY, AND SUBCOMMITTEE ON INTERNATIONAL TRADE, INVESTMENT AND MONETARY POLICY OF THE COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS,

Washington, D.C.

The subcommittees met, pursuant to notice, at 9:30 a.m. in room 2128, Rayburn House Office Building, Hon. Stephen L. Neal (chairman of the Subcommittee on International Trade, Investment and Monetary Policy) presiding.

Present: Representatives Neal, D'Amours, Cavanaugh, and Evans. Chairman NEAL. The subcommittees will come to order.

Because of the situation in Iran, the chairman of the full committee has called a caucus of Democratic members. I think members will be coming in a little later on in our hearing, but we will go ahead and begin the hearing at this point, anyway.

Today we continue joint hearings of the Subcommittees on Domestic Monetary Policy and International Trade, Investment and Monetary Policy on "Monetary Policy—Goals and Conduct for the 1980's."

It has been nearly 8 weeks since Federal Reserve Board Chairman Paul Volcker announced on October 6:

A change in method used to conduct monetary policy to support the objective of containing growth in the monetary aggregates over the remainder of this year within the ranges previously adopted by the Federal Reserve This action involves placing greater emphasis in day-to-day operations on the supply of bank reserves and less emphasis on confining short-term fluctuations in the federal funds rate.

From October 6 until now there has been a definite slowdown in money growth. The stock or volume of M_1 , in fact, was actually lower during the latest statement week, the week ending November 14, than it was the week ending October 3.

So, although I have some concern about the details of the new method, the results so far are encouraging. They show that growth in the aggregates, for the present at least, is being contained.

I am hopeful that money growth will continue to be contained, and gradually reduced over the years ahead. Unless this is done, I see no hope of containing and reducing inflation, or of limiting the frequency and magnitude of future episodes of recession.

I was especially pleased, therefore, when Chairman Volcker, responding to a question which I put to him about reducing money growth around a percentage point a year over the next 5 years, said:

I very much welcome and agree with the notion that we have got to follow the kind of a broadly declining trend if we are going to restore price stability . . . five years from now I would like to be around that level you suggest in your bill (3 per centum for M_1 inclusive of ATS and NOW accounts). I think experience shows that using a kind of present M_1 concept, the increase . . . should be very small if, indeed, we are serious about price stability.

I am also encouraged by developments since October 6 in foreign exchange and commodity markets, and since late October in credit markets. From the beginning the dollar has firmed. The speculative interest in metals has, at least for now, ended. The sharp rise in interest rates which followed the October 6 announcement now appears to have been checked.

Since late October interest rates have fallen on a wide front. The keystone Federal funds rate has dropped from over 15½ percent at the end of October to under 13 percent, the Treasury bill rate has fallen from nearly 13 percent back under 12 percent, the 3-month CD rate is off over a percentage point. In California, some mortgage rates have been reduced and yesterday a major New York bank reduced its prime loan rate.

At the opening of these hearings my colleague Parren J. Mitchell, who unfortunately cannot be here today, asked: "Can we pull it off? Can we reduce rates of monetary growth without inducing a recession?" I believe we can, if the Federal Reserve acts carefully and well.

The dramatic turnaround in interest rates since late October indicates that if the Federal Reserve doesn't let money growth collapse, as it has so often in the past, reducing money growth won't precipitate a major recession.

The Nation's credit markets are flexible enough to prevent a credit crunch, provided only that money growth is slowed and not allowed to collapse.

We can reduce inflation without causing a recession. However, I have two gnawing doubts about our doing so.

First, I am disturbed about the caveat in Chairman Volcker's October 6 statement that the change in the Federal Reserve's method was " * * * to support the objective of containing growth in the monetary aggregates only over the remainder of this year."

If the new method works, as it can, why go back to the old one which definitely didn't work?

Second, I am concerned because the Federal Reserve's commitment to the new method of focusing on the input of reserves, instead of on the Federal funds rate, in managing monetary growth is far from complete.

Witness that at its meeting on October 6 the Federal Open Market Committee stated that it would try " * * * to restrain expansion of reserve aggregates to a pace consistent with deceleration in growth of M_1 , M_2 and M_3 * * * provided that in the period before the next regular meeting the weekly average Federal funds rate remains within a range of 11½ to 15½ percent."

Frankly, I am puzzled. Is it enough to change only the focus of monetary policy, placing, as Chairman Volcker stated on October 6, "greater emphasis in day-to-day operations on the supply of bank

reserves and less emphasis on confining short-term fluctuations in the Federal funds rate”?

Since October 6 it has been enough, and that is encouraging. However, maybe we have benefited from a happy accident. In the future we may find that even a 4 percentage point funds rate target band is not wide enough to prevent the same rollercoaster money growth which has so terribly afflicted our economy, causing repeating waves of inflation and recession, in the past.

Can we afford to subject our monetary growth plans to provisos on the Federal funds rate in the 1980's? I am sure that our witnesses today and next week will shed light on this and other questions about the course and conduct of monetary policy in the years ahead.

Before calling on today's witnesses, I will ask if any of my colleagues has an opening statement.

Our witnesses are Dr. Benjamin M. Friedman of Harvard University; Dr. A. James Meigs, who is chairman of the board of the Claremont Economics Institute and professor of economics at Claremont Men's College; and Dr. Michael Parkin, who is professor of economics at the University of Western Ontario in Canada, originally from England and currently on leave of absence with the Hoover Institute.

Gentlemen, I thank you for being here today. We will now hear from you, Dr. Friedman.

STATEMENT OF DR. BENJAMIN M. FRIEDMAN, ASSOCIATE PROFESSOR OF ECONOMICS, HARVARD UNIVERSITY

Dr. FRIEDMAN. Mr. Chairman, I am honored to have the opportunity to present my views to this meeting of the two subcommittees on the occasion of their joint oversight hearings on “Monetary Policy—Goals and Conduct for the 1980's.” The subject of these hearings is of crucial importance, and I commend the members of this committee for their continuing interest not only in the current posture of monetary policy but also in the fundamental underlying structure of the monetary policy process. Too often attention is devoted entirely to current events, rather than to the evolution of the monetary policy process—which, in the long run, may be even more important. The work of this committee has been a notable, and laudable, exception.

As we are all aware, on October 6 the Federal Reserve System announced a number of monetary policy measures, including a change in the method of conducting open market operations to implement its monetary growth target strategy. Since then there has been substantial uncertainty about just what this new method for open market operations will involve. In addition, there has been much speculation about the implications of this new operating method, and the apparent tightening of monetary policy that has accompanied it, for the U.S. economy's prospects for 1980 and thereafter.

In light of these recent developments, in my testimony this morning I will address three questions: (1) What is the best method of implementing a monetary growth target strategy for monetary policy? More specifically, is adoption of the new method announced last month likely to improve the Federal Reserve's ability to induce monetary growth within a designated target range? (2) At a more fundamental level, should the Federal Reserve gear its operating strategy

for monetary policy to the pursuit of monetary growth targets in the first place? If so, are there general guidelines for the implementation of a monetary growth target strategy beyond the somewhat mechanical choice of technique for setting day-to-day open market operations? (3) Finally, is the current stance of monetary policy, including the posture of monetary policy since the October 6 measures, appropriate for the circumstances confronting the U.S. economy at the opening of the 1980's?

1. HOW TO PURSUE MONETARY AGGREGATE TARGETS

Since 1970, the Federal Reserve has generally structured its monetary policy around the pursuit of targets set in advance for aggregate measures of either money or bank reserves. Moreover, since the passage of H. Res. 133 in 1975, the Federal Reserve has reported in advance to the Congress, several times per year, the rates of monetary expansion that it is seeking over successive forthcoming 12-month periods.

At the outset, before even considering the best method of implementing monetary aggregate targets, it is necessary to deal with two preliminary issues. The first is whether the Federal Reserve can control the rate of monetary growth if it so chooses. The answer is that the Federal Reserve can indeed control the rate of monetary growth with moderate accuracy over the medium to longer run—say, over a time horizon of a year or so. By contrast, within shorter time horizons the Federal Reserve can exert substantial influence on the rate of monetary growth, but it is unlikely to be able to achieve any specific monetary growth target with exact precision. The vagaries of uncertain behavior on the part of both the commercial banks and the nonbank public simply preclude precise short-run monetary control in a fractional reserve banking system like ours in the United States. This perhaps troublesome fact does not mean that the Federal Reserve should not try to influence monetary growth in the short run. It does mean, however, that we should not expect precise achievement of monetary growth targets over timespans like one month, or even one calendar quarter. Moreover, we should not infer, simply on the basis of whatever deviations of monetary growth away from the announced targets occur over such timespans, that the Federal Reserve is not attempting to achieve its targets.

Second, some critics of recent monetary policy have recently alleged just that—that the Federal Reserve's announced monetary growth targets are no more than announcements. In other words, critics have claimed that the announced monetary growth targets are merely rhetorical, and that they play no role in determining the monetary policy that the Federal Reserve actually implements. It is important to understand that this allegation is false. A growing accumulation of empirical evidence has now shown clearly that the contrary is true. Work by Paul DeRosa and Gary Stern at the Federal Reserve Bank of New York, by James Diggins at Harvard University, by Edjar Feige and Robert McGee at the University of Wisconsin, and most recently by Raymond Lombra and Michael Moran at Pennsylvania State University, in each case shows clearly that since 1970 monetary growth targets have in fact played an important role in actual—not just announced—monetary policy. The evidence produced by Lombra and Moran in particular shows that by far the largest single factor

in accounting for the Federal Reserve's adjustment of the Federal funds rate, its main operating instrument during the 1970's, has been the observed deviation of monetary growth from the targeted range. When monetary growth has been higher than targeted, the Federal Reserve has adjusted the Federal funds rate upward; conversely, when monetary growth has fallen short of the targeted range, the Federal Reserve has lowered the Federal funds rate. While there is ample room to debate whether these responses should have come quicker, or whether they should have gone further, the evidence is clear that such responses have consistently taken place.

As is now familiar, the innovation announced by the Federal Reserve on October 6 is to replace the operating method that manipulates the rate of monetary growth by setting the Federal funds rate with an alternative method that manipulates the rate of monetary growth by setting the growth of bank reserves. Instead of relying on relationships that describe how much money the banking system and the non-bank public will produce under a given interest rate, therefore, the new approach relies on relationships describing how much money they will produce for a given amount of reserves to back it.

In principle, either method could work better than the other. There is simply no way of knowing a priori which of the two methods will provide the better lever with which to control the rate of monetary growth. On one side, the looseness of the relationships connecting monetary growth and interest rates is now well known from the experience of the 1970's. It is important to realize, however, that the analogous relationships connecting monetary growth to the growth of bank reserves are also loose and not necessarily very reliable. Banks can create a great deal of money for a given amount of reserves by using those reserves to back low-reserve liabilities like passbook savings accounts; or, alternatively, they can create a small amount of money for the same amount of reserves by using those reserves to back high-reserve liabilities like demand deposits. In addition, the uncertainties of deposit shifts between city banks and country banks, between large banks and small banks, between Federal Reserve member banks and nonmember banks, and between domestic banks and off-shore branches, all preclude any exact relationship between the quantity of reserves and the quantity of money created from those reserves.

Two years ago I attempted, in a paper published in the Brookings Papers on Economic Activity, to assess which of these two methods of open market operations—one keying on a short-term interest rate like the Federal funds rate, and the other on the growth of bank reserves—would achieve the more precise control over monetary growth within a time horizon of one calendar quarter. The statistical analysis that I carried out suggested that the two methods did not differ much on this account but that, of the two, the interest rate method was actually modestly superior. Specifically, I found that, under the interest rate method, two-thirds of the time the Federal Reserve should be able to come within 2.4 percent per annum of achieving its monetary growth target while, under the reserves method, two-thirds of the time it should be able to come only within 3.7 percent per annum. I hasten to say that I do not regard this evidence as in any way conclusive. My own conclusion from this analysis is that, on the basis of the statistical evidence that we have to date, we simply

cannot tell the difference between the likely performance of the two methods as scored by the precision of monetary control that either can deliver. The two may well be different, in that one may be able to achieve better monetary control than the other. On the basis of the available evidence to date, however, it is impossible to determine whether that is so—or, if it is, which method would turn out to be better.

Where does that leave us with regard to the recent change announced by the Federal Reserve? In my judgment it will probably be useful to go ahead to experiment with the new method. There is no hard evidence to suggest that the new method will do worse, and it is entirely possible that, for reasons not captured in statistical investigations, the new method may do better. Hence I welcome the adoption of the new reserves method on an experimental basis.

Nevertheless, it is important to keep several caveats in mind. One is that we should not expect any great improvement in the precision of monetary control. Hence we should not conclude that the Federal Reserve is somehow “not trying very hard” if it turns out that the new method yields only about the same precision of monetary control as did the old method. Moreover, we should be prepared to resume the old method of operation if it turns out that the new method, instead of being an improvement, delivers substantially worse monetary control or somehow suffers from other unanticipated drawbacks.

2. THE ROLE OF MONETARY GROWTH TARGETS IN MONETARY POLICY

Unfortunately, a substantial amount of confusion has surrounded the nature of the Federal Reserve’s new policy measures. A reading of the financial press indicates that many observers of monetary policy believe that the new policy amounts to adopting a monetary growth target strategy for monetary policy where none existed before. I do not believe that that is what the Federal Reserve has done. Instead, as I have indicated already, the Federal Reserve has changed the method of using open market operations to implement the monetary growth target strategy that it has had throughout most of the past decade. The general policy of pursuing monetary growth targets remains. What is different is merely the method of seeking to achieve these targets.

In this context, it is important to ask whether placing primary reliance on monetary growth targets is the appropriate way to design monetary policy in the first instance. Monetary growth targets can in fact play a useful role in the design and implementation of monetary policy, but it is important not to place too much emphasis on precise control over monetary aggregates in the short run. In the paper that I mentioned earlier, I also showed that the monetary targets operating strategy, as recently implemented by the Federal Reserve, suffers from at least two principal shortcomings.

First, the monetary targets strategy is a useful but in general an inefficient way of exploiting the valuable information about the economy contained in near-term observations of the money stock. Except under the highly restrictive conditions that the demand for money is both interest insensitive and perfectly stable—neither of which receives support from empirical investigations—the monetary targets strategy is inferior to an alternative, more general, procedure

for adjusting monetary policy in light of the relevant information contained in observed money stock values. At the empirical level my paper provided some limited evaluation of this criticism. Results based on a compact macroeconomic model indicated that the monetary targets strategy exploits the information in money stock observations with substantial inefficiency. This strategy, which involves responding to observed deviations of the money stock from the targeted growth path so as to restore the money stock to that path, calls for a monetary policy response that differs markedly from that which a correct processing of the information contained in the observed deviations would warrant—regardless of whether the direct operating instrument of monetary policy is a short-term interest rate or bank reserves. In addition, as the events of past years have dramatically illustrated, the short-run relationship between the money stock and economic activity is sufficiently unreliable that at least some of the information provided by money stock movements is itself often highly misleading. Hence reacting sharply to shortrun deviations of the money stock from prior growth targets is not a sound strategy.

Second, the monetary targets strategy suffers from the further—and potentially more damaging—shortcoming of hindering monetary policy from exploiting the near-term flow of information about the economy contained in observations of variables other than the money stock. With information as scarce as it is, any that nonmonetary sources offer should be exploited; and the use of the monetary targets strategy leads to a mistaken emphasis on exploiting only those variables that are not only observable but also largely “controllable” in the short run. Empirical evidence showed that several nonmonetary financial aggregates—including bank credit, bank loans, total credit, and total liquid assets, each of which is readily observable on a current basis, just like the money stock—contain information about income that is not already contained in the monetary aggregates. The fact that monetary policy cannot exert even reasonably close shortrun control over some of these aggregates—especially total credit and total liquid assets—as direct target variable in no way precludes their use as “information” variables for keying monetary policy operations.

The basic implication of these analytical and empirical results is that in the short run the Federal Reserve should not seek to control the money stock closely as the direct target of monetary policy. Even if on a near-term basis policy were to focus only on the money stock, its response to observed movements should still be different from that indicated by the monetary targets strategy. Perhaps more important, policy should focus not just on the money stock but rather, at the very least, on an index of monetary and credit aggregates. In addition, the Federal Reserve should seek better ways of incorporating into its analysis the near-term flow of information from financial variables other than financial aggregates, and from nonfinancial sources too. The fundamental point is not that near-term observations of the money stock contain no useful information for monetary policy, but only that they do not contain all such useful information. While money should not be the direct target of monetary policy, therefore, it should be a useful and probably an important variable—but not the only one.

For these reasons I find disturbing the Federal Reserve’s continued emphasis on the “money” side of the banking system’s activity, to

the near exclusion of attention to the "credit" side. The formulation and implementation of monetary policy must depend on a broad range of measures both of the performance of the nonfinancial economy and of the effect of monetary policy more specifically. In light of recent shifts in portfolio behavior, narrowly keying on one or two monetary aggregates would be especially unfortunate at this point. For this reason I applaud the Federal Reserve's apparent close attention to developments in the nonfinancial economy, but I also urge increased attention to credit measures in addition to money measures. In this context I commend the Senate Banking Committee for also recommending, in its "Second Monetary Policy Report for 1979"—issued on August 9—that the Federal Reserve place more emphasis on credit targets along with money targets.

The point of this recommendation is not that money measures contain no influence or information relevant to monetary policy, but rather that money measures and credit measures both bear such relevant influence and information. The relative importance of the two is an open question, which recent developments have rendered even less easily resolved than it may once have appeared. Economics provides no a priori reason to acknowledge the influence and information provided by the public's money holdings but not its credit liabilities. For a given short-term interest rate, or a given growth in the monetary base, the behavior of the banking system as well as of the nonbank public determines the growth of both money and credit, and does so jointly with the determination of nonfinancial economic activity. There is no justification for paying attention to the "money" side of this process while disregarding the "credit" side.

Moreover, the importance of paying explicit attention to bank credit will be all the greater if the Federal Reserve adopts the new definitions of the monetary aggregates proposed earlier this year by the Federal Reserve Board staff. In brief, the primary aim of the proposed new definitions is to eliminate some of the arbitrariness inherent in the current definitions by emphasizing, within the universe of liabilities of deposit-issuing institutions, the question "what kind of deposit?" instead of "what kind of institution?" The primary beneficiary of this change will be the middle measure, M_2 . Despite the attention it has received in recent years as the aggregate with the stablest "velocity" relation to income, the current M_2 has never made sense as a summary measure of anyone's deposit-holding behavior. The proposed new M_2 , which will add to M_2 savings deposits at both banks and thrift institutions, will avoid the anomaly of arbitrarily distinguishing large quantities of essentially identical consumer-held deposits that are often accessed from similar looking buildings across the street from one another. Hence the new measure will provide an improved guide to the asset-holding behavior of the nonbank public including both individuals and businesses.

The price that the proposed new definitions will pay for this rationalization of the representation of the public's asset-holding behavior, however, will be a sharp loss of ability to represent the public's liability-issuing behavior. Fittingly enough, the main winner on the asset-holding side, M_2 , will also be the chief loser on the liability-issuing side.

An often troubling question is why the current M_2 , which is such a profoundly arbitrary measure of deposit-holding behavior, should exhibit such a close relationship to aggregate economic activity. One part of an explanation is that movements in the current M_2 , although they are measured from the liability side of the commercial banking system's balance sheet, in reality capture much of what is happening on the asset side. With the subtraction of some \$100 billion of currency and the addition of some \$100 billion of negotiable certificates—plus an adjustment for capital accounts less reserves, and some other liabilities— M_2 is approximately equivalent to bank credit. Indeed, historically there has been a very high correlation between the respective growth rates of M_2 and bank credit. It is my impression that this close relationship between the current M_2 measure and bank credit is widely recognized though seldom explicitly discussed. Instead, M_2 has served as a tacit neutral ground on which people with divergent views about how monetary policy works can hold a mutually understandable conversation and even concur on a mutually agreeable policy. Using M_2 as the monetary growth target to guide monetary policy, or simply as a variable to relate to income, in effect captures much of whatever influence or information is associated with bank credit in the complex process connecting financial and nonfinancial economic activity.

The proposed redefinition of M_2 , by excluding time deposits at commercial banks and including savings deposits at nonbank thrift institutions, will sever the relationship to bank credit. The historical correlation between bank credit and the proposed new M_2 measure is only about half that between bank credit and the current M_2 . The new definition will therefore achieve an improved representation of "money" at the expense of the representation of "credit" behavior. If the Federal Reserve adopts the proposed redefinitions, it will therefore be all the more important to rely explicitly on bank credit measures as well as the monetary aggregates in formulating and implementing monetary policy.

3. MONETARY POLICY TODAY AND THE U.S. ECONOMY IN 1980

The sharply contradictory forces now affecting the U.S. economy have created substantial confusion about near-term economic prospects. It is now widely recognized that price inflation is our Nation's most threatening macroeconomic problem, but there is no sign yet of any improvement or even nearterm likelihood of improvement on this front. At the same time, signs of recession ahead continue to accumulate, despite the absence of much hard evidence of weakness to date. The economy's surprisingly strong rebound in the July-September quarter almost exactly offset the decline in the preceding quarter, leaving total output essentially back at its earlier peak after adjustment for inflation. Moreover, it was primarily final sales, rather than an unintended build-up of inventories, that accounted for most of this strength. Still further, the expansion of final sales itself came entirely from sources other than the Federal Government.

Nevertheless, two powerful factors suggest that the current business expansion, which passed its fourth birthday last spring, will falter soon. First, the strong dependence of this expansion on consumer spending, which has been evident almost from the beginning, became even more pronounced in the most recent quarter when the economy's personal saving rate dipped to an astonishing 4.1 percent. If the saving rate had merely remained at the already low 5.2 percent average maintained during the first half of this year, final sales after adjustment for inflation would have grown by only 1.7 percent per annum instead of the 4.8 percent per annum gain actually recorded. Although it is impossible to say with precision just when this consumer spending splurge will end, mounting consumer debt burdens and weakening personal incomes suggest that its time is sharply limited. Without the strong boost from the consumer, there will be little momentum left in the expansion.

The second major factor indicating economic weakness ahead is the Federal Reserve's new monetary policy. Until this past month, it was impossible to make a convincing case that U.S. monetary policy had been restrictive at any time since the current business expansion began more than 4 years ago, regardless of which policy indicator one chose to emphasize. Now the situation is different. In large part because of new reserve actions that have raised commercial banks' marginal cost of funds far above their average cost, short-term borrowing rates are now well in excess of meaningful rates of inflation, and long-term yields have adjusted sharply upward as well. Banks have begun to liquidate their securities portfolios for the first time in this business cycle, and reports of credit rationing are widespread.

In conjunction with a fiscal policy that has been tight for 2 years, as Federal nondefense spending has consistently fallen below budget and the Federal Government's deficit has been smaller than the combined net surplus of State and local governments, a tight monetary policy is now likely to bring on the long anticipated downturn. Reduced availability of consumer credit will help to slow consumer spending, even if consumers themselves remain impervious to their record debt service burdens. The surprising resilience of the homebuilding industry thus far finally appears about to fade, although probably only to the extent of reducing new housing starts by some 25 percent from their relatively high level of the past year or so. Similarly, the financial pressures associated with high energy prices, falling profits, the high cost of external credit, and limited availability of credit for some borrowers, will probably cause businesses' investment in new plant and equipment to falter by the second half of next year. In sum, the combination of tight fiscal policy and tight monetary policy will probably prove too powerful a drag for the current expansion to persist much longer.

How do these prospects for a weak economy in 1980 relate to the subject of this hearing—the goals and conduct of monetary policy for the 1980's? The principal challenge that monetary policy—and fiscal policy too—faces at the outset of the 1980's is the stabilization, and then the deceleration, of the ongoing rate of inflation. To be sure, there are other pressing macroeconomic problems as well, including such examples as our country's inadequate capital formation rate and excessive dependence on increasingly unreliable foreign supplies of energy.

In addition, efforts to solve any or all of these problems may temporarily lead to hardships for some, through higher fuel prices or loss of jobs or other unfortunate events. Nevertheless, other more focused policies are better suited to dealing with these other problems than are relatively blunt instruments like monetary and fiscal policies. The best use of monetary and fiscal policy at this time is to promote stable growth and decelerating inflation, leaving other problems to other policy measures.

It is important to realize that no one policy error or unlucky accident created the environment of high inflation in which we live today. Instead, the surprise is that price inflation in the United States has accelerated so slowly. It has taken more than a decade to move our economy from an environment of approximate price stability to one of near double-digit inflation—and well into double digits for some inflation indices—in which we live today. During this period of a decade and a half, we have of course had some “bad luck” in the areas of energy prices and, at times, food prices. Nevertheless, it is impossible to ascribe all of the increase in inflation to these factors. A substantial part of the unhappy story is that, over the bulk of this period, on balance the U.S. economy operated too close to its effective ceiling of full employment of resources. The continual pressure to use more plant and equipment, to employ more labor, to extract or import more raw materials, and to use more energy, all combined to generate a consistent and quickening upward pressure on prices.

Realizing that the increase of the inflation rate from a relatively stable range to the near double-digit range has been a slow process is an important first step in assessing prospects for the future. It suggests that there is no magic cure that will undo in a year, or even two, what it has taken a decade or more to do. Moreover, it is highly unlikely that the adverse inflationary effects of energy prices will turn around any time soon. Instead, most people knowledgeable about the subject fear that the relative price of energy will continue to rise throughout the 1980's, so that progress in reducing inflation will have to come against the ongoing pressure of at least one of its initial causes.

What can monetary and fiscal policies do under these circumstances? Over the foreseeable future, the best way in which U.S. monetary and fiscal policies can help to reduce price inflation is to aim at a modestly lesser utilization of resources—again, including plant and equipment, labor, raw materials, and energy—than has been the case during the last decade and a half. Moreover, they should attempt to take a somewhat different set of risks than they did during the past two decades, when most policy errors were on the side of too much expansion. We never try to make policy mistakes, but we know—even though we may not enjoy admitting it—that we will inevitably make some. Over the next decade, monetary and fiscal policies should adopt an overall posture such that on balance, when mistakes do occur, they are more often in the direction which temporarily reduces utilization of the economy's resources than that which temporarily causes excess utilization. A sustained policy of aiming at a modestly lower utilization level, and of having mistakes on balance be in the lower utilization direction, should begin to make a substantial difference for our inflation rate before too long.

Finally, what about the prospects for 1980 in particular? In the context of the current inflation problem, a weak economy in 1980 has probably become an unfortunate necessity. It would at least make a start on the road to halting the rise of inflation, and then subsequently to producing a deceleration of inflation. Nevertheless, it is important not to expect inflation to fall rapidly, even if a short and mild recession occurs next year, because building up unrealistic expectations of progress would probably only lead to the abandonment of a responsible anti-inflation policy after it emerged that that policy could not pay off with enormous gains in the short run. Instead, the right strategy is to pursue a gradual attempt to reduce inflation over a longer period of time. A weak economy in 1980 is a regrettable but probably necessary way to begin.

Mr. Chairman, thank you for the opportunity to present my views to the committee.

Chairman NEAL. Thank you, Dr. Friedman, for your very excellent testimony.

I would like to know what the will of the subcommittees are, whether we would like to hear from all the witnesses and then ask questions or to ask questions of each witness.

Mr. D'AMOURS. Mr. Chairman, I would suggest maybe we suspend the questioning. It is 3 minutes of 10. We have a caucus at 10.

Chairman NEAL. The caucus will be meeting in another room. We are going to continue.

Mr. D'AMOURS. I am sorry. I understood you were going to suspend. I apologize. I have no preference.

Chairman NEAL. We could suspend the hearings for 15 minutes or so and see if the caucus would be a relatively brief one, and return to the hearings.

I am wondering about the time constraints of our witnesses. Would that be a problem for anyone? If it would not, I believe we might get broader participation in the hearings, and I think that that might be beneficial.

If there is no objection, we will suspend the hearings for about 15 minutes. We will return sooner if we can.

[Brief recess.]

Chairman NEAL. I apologize to our witnesses for this long delay. The caucus is still meeting. I think it won't last too much longer. There will be some other members up in a very short time.

At this time we would like to hear from Professor Meigs.

**STATEMENT OF DR. A. JAMES MEIGS, CHAIRMAN OF THE BOARD,
CLAREMONT ECONOMICS INSTITUTE, PROFESSOR OF ECONOMICS,
CLAREMONT MEN'S COLLEGE**

Dr. MEIGS. First I want to say it is a great honor for me to participate in your hearings. Like Professor Friedman, I think your investigations of the monetary policy process have been very helpful by explaining to the public how monetary policy works.

I believe that your hearings and reports will help to restore stability in prices, bring lower interest rates, a more stable dollar in exchange markets, and put this country back on track toward more and better jobs and a rising standard of living.

You can do this by increasing public understanding of what monetary policy can do and should do.

Now, I believe the Federal Reserve deserves very strong support for the policies announced on October 6, and especially for the policy of controlling growth of the money stock, and giving less emphasis to attempting to control interest rates.

I believe that the Federal Reserve can control any monetary aggregate it selects within a small and tolerable range of error. It is a matter of wanting to do it.

I think they could hardly do worse than they have done in the past. So a change to a new procedure should yield benefits in improved performance.

I think it is very unfortunate that the early reactions of the U.S. financial markets were apparently based on a misinterpretation of Federal Reserve policy. I think many people believed that the Federal Reserve planned to drive interest rates higher in order to support the dollar on exchange markets.

That is essentially the strategy No. 1, that you outlined in your letter of invitation. But in fact the announcement of these new policies should have meant less inflation in the future, and less inflation in the future should mean lower interest rates, not higher interest rates. In recent days, the sharp fall of interest rates indicates that the markets are recovering from the shock that they suffered in October.

Trying to keep interest rates high would not help the dollar on exchange markets if inflation is not checked at the same time. So if money growth is reduced, expectations of inflation will fall, and we should see lower interest rates at home and a stronger dollar or more stable dollar abroad. So, there is no conflict between domestic and international monetary policy goals at this time.

The key to the whole thing is expectations; that is, it seems to me, where you can help the most. Because if Americans expect more inflation, this will cause them to buy real estate, commodities, gold, and other inflation hedges. They will hesitate to put money in savings accounts in banks and thrift institutions or to buy bonds. Therefore, this hesitation tends to drive interest rates up in the United States. If exchange traders and investors expect more inflation in the United States, they will buy other currencies, which drives the dollar down on exchange markets. OPEC is more likely to raise the price of oil if they believe that we are going to have more inflation in the United States because, after all, they want goods and services for their oil, not dollars. We saw all of these effects of rising inflation expectations in 1979.

In preparing for these hearings, we tested various monetary policies and the results are shown on the charts that are part of my prepared statement.

The first experiment we did was to contrast a policy of cutting M_1 growth to a 3-percent annual rate and holding it there through 1984. Then we contrasted this with a policy of reducing M_1 growth gradually in stages as prescribed in your H.R. 5476. For this first experiment, we assumed there would not be a major oil price shock. So the first chart you see shows two courses for monetary expansion—one steady 3 percent, one gradually declining.

On the second page, we show effects of the two policies on real GNP growth. If money supply growth were to drop immediately to 3 percent

and stay there, this would hold output in 1980 and 1981 a little bit below what it would be with the gradual money supply reduction strategy. Actually, though, it would mean that with the 3-percent steady money growth rate the economy would reach its potential output growth rate a little sooner than with the gradually declining M_1 growth rate.

The effects on inflation are that an immediate drop to a steady 3 percent would bring inflation down a little faster than the gradual reduction, but both of them get inflation down to a very low level by the end of 1984.

So by either course, reduction of the money growth rate would bring inflation down. We would have a temporary period of instability in 1980, which is really a legacy of the unstable monetary policies and oil shocks of last year, and then get back to a high growth rate by 1982.

Both of these strategies of reducing money growth rates would, as you see on the next page, reduce interest rates. You can see we use commercial paper rates for our short-term rate. By either policy, we would expect a sharp drop in short-term rates in 1980. In fact, I think that decline is already underway.

With the steady 3-percent M_1 growth, which is a sharper reduction policy, interest rates would fall sooner than with the gradual. Both of them would get to the same point by 1984. Long-term rates, too, would come down under both policies. They would come down a little faster with the steady 3-percent M_1 growth.

But the essential point is that reducing the money growth rate instead of raising interest rates, as many people fear, would bring interest rates down. So that would seem to me a very desirable implication of these policies.

Now, the next question we looked into is to suppose that the Federal Reserve is on a policy of gradually reducing money growth rates by stages over the next several years, and then in 1980 we have a major oil price increase comparable to the one that we had last year. What should be the policy, what should the Federal Reserve do, in response to this?

We analyzed two possibilities. One possibility is that they don't respond to this in any way—just stay on course, controlling the growth rate of the money stock, gradually reducing it.

The other one is a suggestion some economists have made that the Federal Reserve could ease the adjustment cost by departing from their monetary growth strategy and letting the money growth rate rise temporarily. We show both possibilities on the chart, showing what we call accommodative monetary policy for an oil price shock, and one of just sticking on course.

But when you look at the effects of the policies on the next page, page 5, the accommodative monetary policy to cushion the shock of an oil price increase would mean a little bit higher growth in real GNP in 1980, immediately after the shock, and in 1981. But we would pay for that with lower growth of real output later on, in 1982, when the Federal Reserve would be attempting to get back on its disinflationary or anti-inflationary track. So there is really no net gain in output over the period, following an accommodative monetary policy, when we have an oil price shock.

But if you look at the effects on inflation, the accommodative policy would mean a sharp rise in inflation rate within 1980, and then it

would mean that inflation would be substantially higher for a long time to come than it would have been if the Federal Reserve had just stayed on a monetary growth strategy, of reducing monetary growth. Accommodative policy would mean higher inflation.

The next page, page 6, shows the effects of these two policy choices on interest rates. A lot of people would expect that if we had an oil price shock and the Federal Reserve followed an accommodative policy by letting money growth accelerate, interest rates would be lower.

It doesn't appear to be so. The policy would actually not make interest rates perceptibly lower in 1980 than they would be otherwise, but it would make interest rates much higher later than they would otherwise be. As you can see, both short-term and long-term rates would be higher for a long time.

So, the policy of trying to cushion an oil price increase would mean higher inflation, and would mean higher interest rates than we would otherwise have. That in effect means there is no way to adjust to the oil price shock with monetary policy. The Federal Reserve cannot create oil with its money printing press.

Those results might seem implausible until we reflect that in 1979 the Federal Reserve did effectively cushion or accommodate an oil price increase.

When we had the oil price increase in 1979, soon thereafter the effects on prices raised inflation expectations, which raised or tended to raise interest rates. With the Federal Reserve's procedure of controlling the monetary aggregates by pegging the Federal funds rate, this meant an automatic acceleration in growth of the money stock. That automatic acceleration of the money stock had all of the unfortunate effects that we have shown with this experiment, as a hypothetical possibility in the future. A policy of cushioning an oil price increase by more expansive monetary policy would mean higher interest rates than we would otherwise have. We already have seen that happen.

The third set of experiments that we did was to see what happens, what difference does it make, if the public believes in the policy announcement or if it does not believe. We have two possibilities. One is that the Federal Reserve policies are believed, the announcements are believed by the public. We have precedents in other countries, I think, in the Bundesbank and the Bank of Japan. When they make a policy announcement, the public believes and begins to adjust to the expected new policies rather promptly. In our country, let us say the public is much more skeptical of policy announcements, and so the only way we know now is for the public to observe good behavior on the part of the Federal Reserve for a long time.

So in the two courses we looked at, one is if they believe immediately, we would have a somewhat smaller cost of adjustment in terms of lost output, real GNP, to an anti-inflationary policy. If the public is skeptical for about 2 years, the cost in terms of lost output and employment is somewhat greater. But eventually, if the people believe that the Fed is on a steady anti-inflation policy and intends to remain so, real GNP growth accelerates.

These effects show very clearly on inflation rates. The inflation rate would come down much sooner if people believed that the Federal Reserve was on an anti-inflationary policy and intended to stay on that policy.

So these effects carry on into interest rates. If the people fail to believe that the Federal Reserve is serious, interest rates will be higher than they would be if the public believes that the Federal Reserve is going to control inflation, it is going to stay on the policy. This is true both for short-term rates and long-term rates, which are of great concern to all of us.

In conclusion, I would say that from our experiments and from many years of history, a lot of which is very clearly portrayed in the briefing materials prepared by your staff before these hearings, it is clear that if the Federal Reserve stays on a steady monetary policy track—that is, either a constant rate of growth of money stock or a steadily declining rate of growth of money stock—inflation and interest rates will come down, and the U.S. economy could go back to full potential growth rates within 3 years.

I think the adjustment could be done within a 3-year period. But a deviation from this policy track for any reason—for example, to accommodate an oil price increase—would make inflation and interest rates higher for a long time than they would otherwise be, and would not really increase the growth rate of real output or employment.

Another deviation which I did not illustrate would be one of accidentally undershooting the money growth target. That is a danger in a period of falling interest rates, if the Federal Reserve targets on a Federal funds rate. They may make the growth of money supply less than would be desirable, in which case we could have for a time a more serious recession than we would otherwise have, which raises the danger that the public will demand a shift back to an inflationary policy. We hope that would not happen. Deviation from the track in either direction would have dangerous or unpleasant consequences.

Therefore, I would say that announcing a money growth target is extremely important; the announcement itself is important, letting people know ahead of time what the Federal Reserve has in mind. So then consumers, businesses, investors can plan because they would have more information about future economic conditions. At the present time, the record of great instability in monetary policy over a long period makes people very uncertain about what the Federal Reserve will do next. Even though they have already announced that they intend to have an anti-inflationary policy, they have not spelled out for us yet just what kind of growth rates they project for next year or the years thereafter.

I think it would be very, very helpful if your committee would ask the Federal Reserve to explain its new procedures, explain them frankly and fully, as soon as possible. One of the reasons for the tremendous rise in interest rates in October was that people in the financial markets were so puzzled by what the new procedures were going to be. They knew that procedures would be different than in the past. Many of them believed that the Federal Reserve had been stabilizing interest rates, which actually it had not been doing.

So for a while they were in such great uncertainty that, in effect, a big risk premium was added to interest rates, on bonds and all sorts of financial assets. So that simply explaining the procedures, something your committee has been working on for a long time, would help calm down the markets and make it possible for people to plan more realistically.

A strategy for reducing inflation and stabilizing the dollar on exchange markets would work faster and cost less if people at home and abroad could be convinced that the Federal Reserve won't give up. I am afraid that many people here and in other countries are very cynical about these recent announcements. They say, "Well, they will be on track for a short time and then very soon they will go back to their old habits." That would be very damaging. I think it is one of the reasons why inflation rates and interest rates are not coming down even more rapidly than they are.

So, helping to keep the Federal Reserve on track and convincing the public that the Federal Reserve will stay on track would be a great service that you can perform. It is very important that these announcements be carried out by the Federal Reserve. Whatever the announced policy is, it is important that it be carried out.

I would say that probably the most convincing ultimate announcement that there could be is something like your legislation, H.R. 5476.

Thank you.

[Dr. Meigs prepared statement follows:]



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Statement by

A. James Meigs, Chairman of the Board of Claremont Economics Institute
Professor of Economics, Claremont Men's College

before the

Subcommittee on Domestic Monetary Policy

and

Subcommittee on International Trade, Investment and Monetary Policy

of the

Committee on Banking, Finance and Urban Affairs

House of Representatives

November 27, 1979

It is a great privilege for me and for the institutions I represent to be asked by you to take part in these hearings on the goals and conduct of monetary policy. By increasing public understanding, your hearings and your reports will increase the effectiveness of policies designed to reduce inflation, to stabilize the value of the dollar on exchange markets, and to facilitate growth in employment and real income in this country and in the rest of the world.

I plan first to comment on the policy strategies outlined in your invitation: Strategy 1, which would place top priority on halting the decline of the dollar on exchange markets by keeping interest rates high, and Strategy 2, which would ignore movements in interest rates and concentrate instead on establishing and remaining on or near a long-run disinflationary monetary growth target path. Then I will comment on the results of the simulations which are presented in the charts attached to my written statement. These simulations were run at the Claremont Economics Institute as a way to test implications of various monetary-policy courses for inflation, economic activity, and interest rates.

It is extremely unfortunate that the policy measures announced by the Federal Reserve on October 6 were misinterpreted by many people as measures designed to raise interest rates in this country in order to halt the decline of the dollar on world exchange markets, as in the Strategy 1 outlined in your questions. This fundamental misinterpretation of both the intent and the probable effects of the new Federal Reserve policies accounts, I believe, for much of the extraordinary, indeed shocking, losses in current market value of stocks, bonds, and other financial assets in U.S. securities markets following the Federal Reserve's announcements. The announced policies, if adhered to, should reduce interest rates, not raise them, and thus should increase market prices of stocks, bonds, and other financial assets in U.S. securities markets in coming months.

A strategy of trying to keep interest rates high, in order to support the dollar on exchange markets, would be neither feasible nor necessary. It would

not be feasible because the only way the Federal Reserve can raise interest rates for more than a very brief period is by increasing inflation and raising inflation expectations. The converse is also true, as Chairman Volcker has testified: The only way the Federal Reserve can reduce interest rates is by reducing growth of bank credit and the money supply and thus reducing inflation and inflation expectations. The relationship between inflation and interest rates is very clearly shown in the briefing materials prepared by your staff and in the simulations to be discussed later.

There is a danger, as your questions suggest, that a strategy of sharply reducing growth of bank credit and the money supply in an attempt to raise interest rates would cause a recession, which would then lead participants in financial markets and exchange markets here and abroad to expect a resumption of inflationary policies. This expectation of inflationary policies would soon depress the value of the dollar on exchange markets.

A strategy of trying to keep interest rates high in order to support the dollar would not be necessary because a policy of reducing inflation through reducing monetary expansion rates would be far more effective. Thus Strategy 2 -- ignoring interest rates and concentrating on following a longrun disinflationary monetary growth target path -- is much more desirable than Strategy 1. There is, as Chairman Volcker testified on November 13, "no conflict or meaningful 'trade-off' between the domestic and international objectives of economic policy." If the Federal Reserve concentrates on controlling the provision of reserves to the banking system in the future, rather than attempting to control interest rates, the prospects for achieving both domestic and international objectives of policy will be vastly improved.

Expectations are the key. If people at home and abroad believe that U.S. fiscal and monetary policies will lead to more inflation in the future they will not wait to see the inflation before they act to protect themselves. They will try to reduce their holdings of dollar financial assets, such as savings accounts in U.S. banks and thrift institutions and U.S. bonds and stocks, in order to buy real assets, such as houses, gold and other commodities, thus raising U.S. interest rates. Many also will shift into assets in countries whose governments are expected to do a better job of protecting the purchasing power of their currencies. This shift will reduce the value of the dollar on exchange markets. The members of OPEC, too, are more likely to raise oil prices if they believe the dollars they take in payment will continue to lose purchasing power in terms of the goods and services they can buy in this country and other countries. We have seen all of these effects of inflation expectations on U.S. interest rates, exchange rates, and OPEC oil prices this year.

A strategy of following a disinflationary monetary growth strategy while ignoring interest rates would not require cooperation of other central banks and governments to be successful in stabilizing the value of the dollar on exchange markets. In fact, such a policy strategy in the world's largest national economy should be welcomed by other governments which are concerned with maintaining price stability and high employment in their countries. Their efforts to offset effects of instability in the exchange value of the dollar through direct intervention in exchange markets merely spread inflation and economic instability from the United States to their countries.

They understand that very well. Countries, such as West Germany, which have taken the lead in advocating and applying monetary growth strategies, would enjoy greater success in achieving their domestic stability objectives when instability in economic activities and prices is reduced in the United States. Other countries would have increasing incentive to adopt comparable policy strategies, in order to enjoy the benefits of more stable exchange rates with the United States and other countries.

In the simulations reported on the charts, my colleagues and I at the Claremont Economics Institute tried to see how various proposed monetary policy strategies would work. In the first set, we contrasted a strategy of reducing the growth rate of M1 to a 3% annual rate immediately and holding it there through 1984, with the strategy proposed in H.R. 5476 of gradually reducing M1 growth from a 6% annual rate in 1980 in successive stages to a 3% annual rate in 1983 and following years. We did not try to adjust M1 for the introduction of Automatic Transfer Services, believing that such adjustments, if necessary, could be made in the Federal Reserve's actual operating targets as they go along.

We started with assuming a 3% growth rate for the fourth quarter of this year, as a rough estimate of what actual money growth will be in the current quarter. We also assumed that oil prices will rise at a 3% real annual rate, (after adjustment of dollar prices for U.S. inflation) but that there would not be a major oil-price shock, such as those of 1973-74 and 1979.

The most interesting implication is that inflation would decline substantially under both strategies, with the gradual strategy taking longer, as would be expected. There would be considerable instability in growth rates of real

GNP in 1980 under either strategy, as a legacy of the extreme instability in monetary growth rates and the oil price shock during 1979. The first-year cost in lower economic activity would be greater with an immediate reduction to a 3% growth rate for M1 than under the gradual-reduction strategy, but output would return sooner to longrun potential growth rates under the constant 3% strategy than under the other. Both short-term and long-term interest rates would begin to decline in 1980, and would fall most rapidly with the steady 3% M1 strategy.

The second set explores the implications of another oil-price shock in 1980 comparable to the one in 1979. We were most interested in the question of what would happen if the Federal Reserve were to attempt to cushion the shock by departing from a strategy of gradually reducing monetary expansion. Under the gradual reduction strategy, a major oil-price increase would mean higher inflation and lower output growth for approximately three or four quarters than would have occurred without the oil-price shock. There is no way to avoid these consequences of large, sudden increases in oil prices.

If the Federal Reserve were to try to accommodate effects of the oil-price shock by temporarily abandoning its monetary growth targets, our simulations indicate that it would stimulate higher growth rates of real output in 1980 and early 1981 than if it stayed on its announced monetary growth path. But this gain in output in 1980 and 1981 would be paid for by lower growth in real output in late 1981 and 1982. In effect, accommodative monetary policy in 1980 would merely delay and increase the real costs of adjusting to the oil-price increase. Furthermore, an attempt to accommodate the oil-price

increase with greater monetary expansion would sharply increase the inflation rate and keep it much higher for a long time than it would have been without an attempt at monetary accommodation.

An oil-price increase also would make interest rates higher for a time than they would otherwise be. The attempt to accommodate the oil-price increase with monetary expansion, however, would make short-term rates almost imperceptibly lower for one quarter than they would be without monetary accommodation. But rates would be considerably higher for the next four years as a result of the accommodative monetary policy than they would have been if the Federal Reserve were to ignore the oil-price increases in setting monetary growth targets.

These results gain plausibility if we remember that the Federal Reserve accommodated the 1979 oil-price increase with a sharp acceleration in monetary expansion, by accident if not by intention. When the oil-price increase began to raise inflation expectations and interest rates, the Federal Reserve's practice of attempting to control monetary expansion through pursuing Federal funds rate targets led to an acceleration in growth of Federal Reserve credit, member bank reserves, monetary base, total bank credit, and all of the various measures of the money stock. The recessionary effects of the oil-price increase on real GNP may have been softened or delayed in the third quarter, but inflation rates and interest rates soared upward. The Federal Reserve's announced new practice of controlling monetary expansion through metering out bank reserves, instead of pegging Federal funds rates, should make such accidents much less likely in the future.

The final question we examined in our simulations was the influence of differing degrees of public confidence in Federal Reserve policy announcements. For these tests we assumed that the Federal Reserve would follow the strategy of gradually reducing the growth rate of M1 as prescribed in H.R. 5476 (first chart) and that OPEC would not make any sudden, large increases in oil prices.

It is well recognized that the Bundesbank in West Germany and the Bank of Japan get prompt results from policy announcements, because they have established reputations with the people of their countries for following through (except when pushed off track by pressure to intervene in exchange markets to stabilize their exchange rates). Americans are more skeptical of government policy announcements and so the Federal Reserve has the very difficult problem today of reducing inflation expectations. If we assume, as we have for the lines labeled "Public Confidence", that the public expects money growth to be on the announced growth path, inflation would come down more rapidly than it would if the people have to be shown by several years of good behavior by the Federal Reserve. The costs in real output of reducing inflation also would be much less if the public had confidence that announced policies would be followed. Both short-term and long-term interest rates would decline more rapidly if the American people were confident that the monetary growth targets would be followed.

Although we did not simulate effects of the proposed monetary policy strategies on exchange rates, the effects surely would be very similar. If foreign exchange traders were to believe that the Federal Reserve will stay

with a steady or gradually declining growth rate for the money stock, the dollar would rise promptly. We can see this from the behavior of exchange rates after both the November 1, 1978 policy change and the October 6, 1979 change. But exchange traders remember the record of instability in U.S. monetary growth rates since the early 1960s. They will require convincing evidence in the form of a record of responsible control of monetary aggregates that the Federal Reserve is really serious this time, before committing themselves as fully as they would if they had more confidence in U.S. policies.

The monetary authorities, as Chairman Volcker testified, argue that it would be a mistake to set rigid and narrow long-range monetary targets. They naturally want to retain as large a degree of discretion in setting policies as they can. But the long record of extreme instability of monetary growth rates under discretionary policies will make it difficult for them to achieve their policy objectives as rapidly, or at as low a cost in real output and employment, as they, and the public, would prefer. Therefore, there is much to be said for announcing targets for as far ahead as possible and then hitting them. I have no doubt of the Federal Reserve's technical ability to maintain any desired growth rate for any monetary aggregate they select, within a small, tolerable range of error. Stabilizing the growth rate of almost any monetary aggregate would be a far more effective way to achieve domestic and international monetary policy objectives than would the policies and procedures applied in the past.

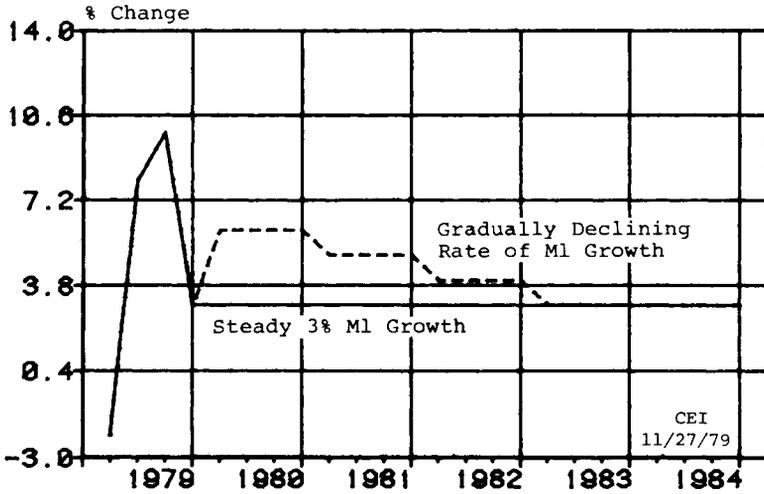
The Subcommittee on Domestic Monetary Policy and the Subcommittee on International Trade, Investment and Monetary Policy can play a major role in enlightening the public on the costs and benefits of pursuing steady disinflationary monetary policies. This should make the Federal Reserve's task easier by reducing the public's fears that the Congress or the Administration may compel the monetary authorities to repeat the errors of excessive monetary expansion and excessive variability in monetary growth rates that have caused so much trouble in the past. Perhaps the most convincing evidence of the determination of the Congress to support sound monetary policies would be legislation, such as H.R. 5476, which would determine a long-range monetary policy strategy.



Claremont Economics Institute

ALTERNATE COURSES FOR REDUCING MONEY GROWTH

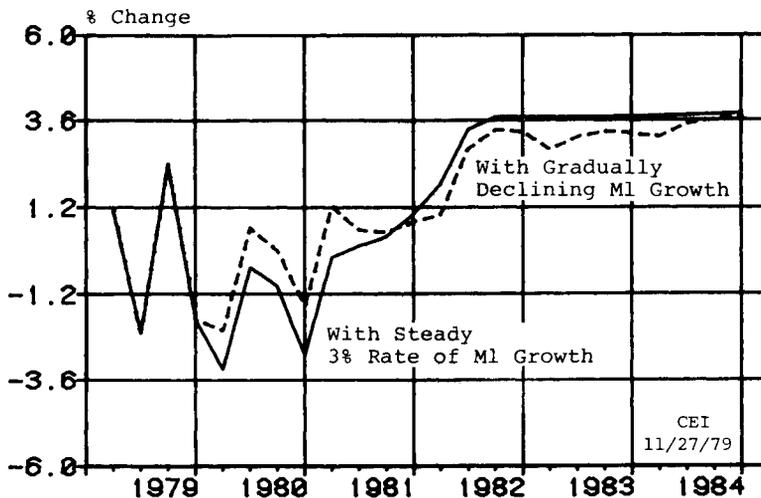
MONEY GROWTH ASSUMPTIONS (M1)



All charts plotted quarterly at annual rates

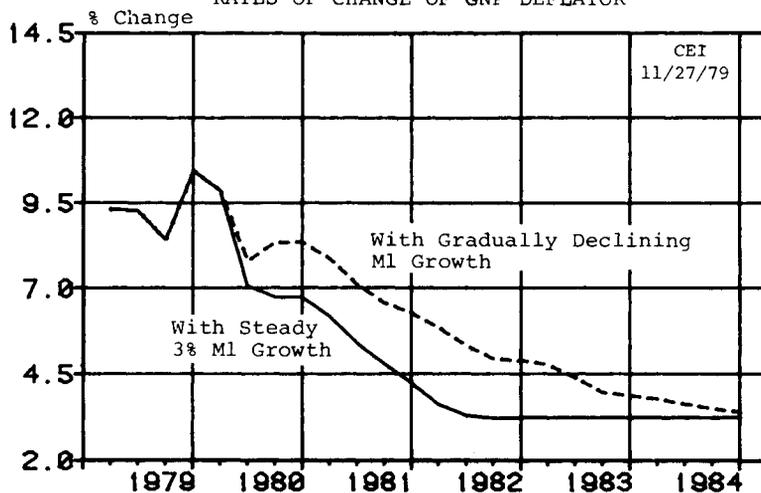
EFFECTS OF LOWER MONEY GROWTH ON REAL GNP GROWTH

RATES OF GROWTH OF REAL GNP

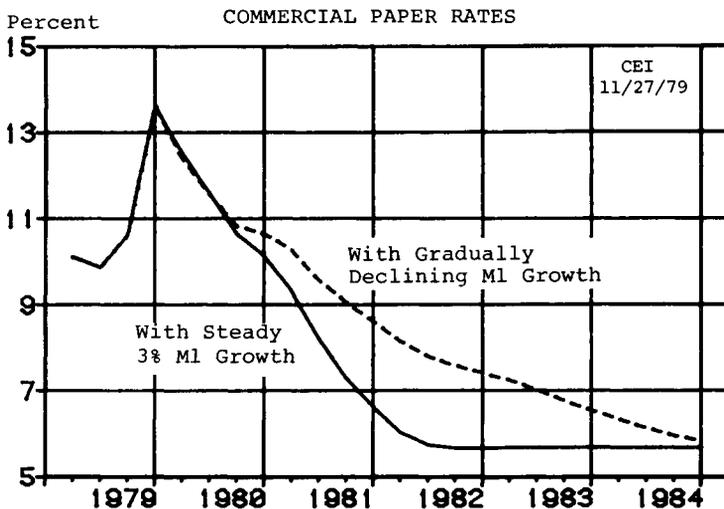


EFFECTS OF LOWER MONEY GROWTH ON INFLATION

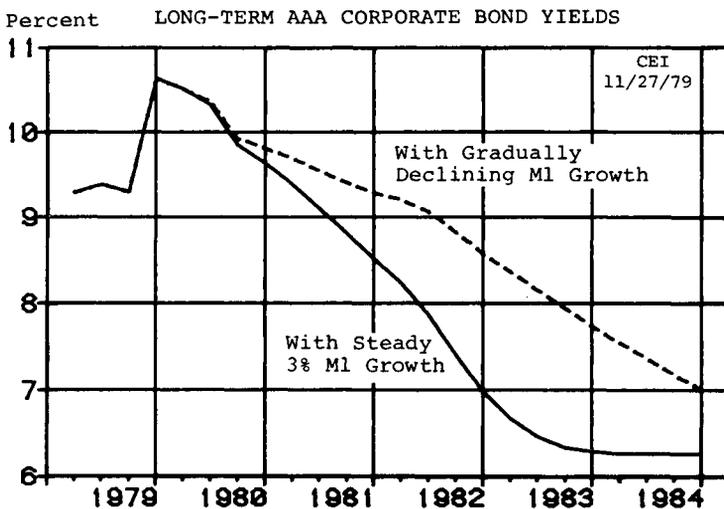
RATES OF CHANGE OF GNP DEFLATOR



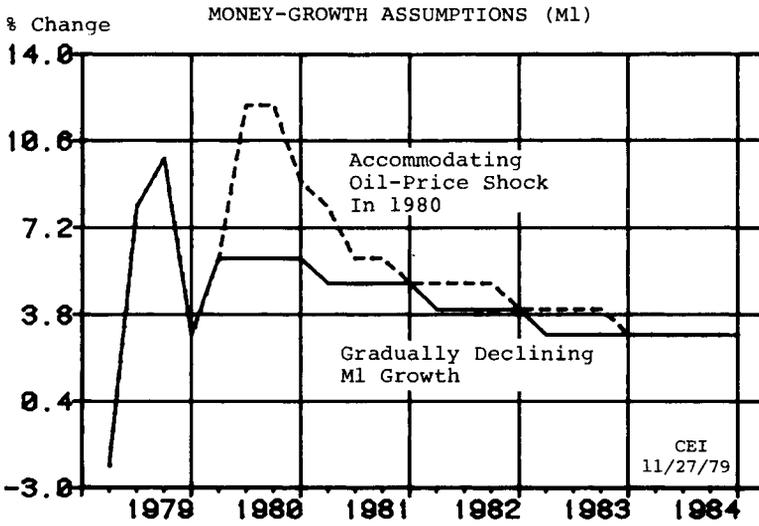
EFFECTS OF LOWER MONEY GROWTH ON
SHORT-TERM INTEREST RATES



EFFECTS OF LOWER MONEY GROWTH ON
LONG-TERM YIELDS

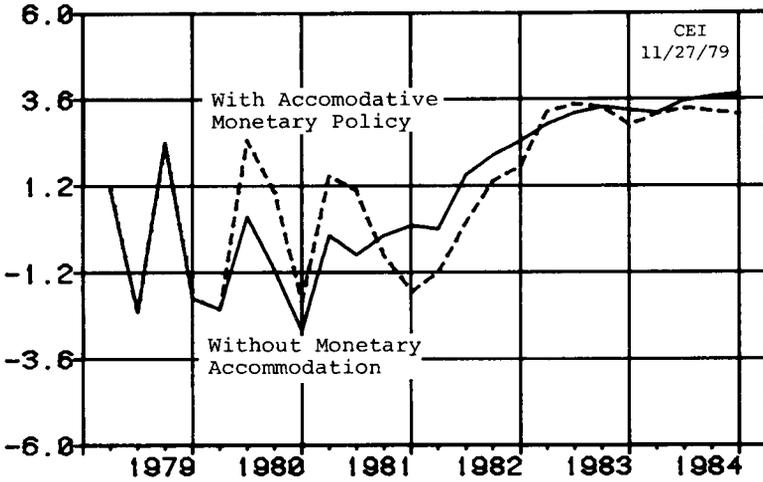


ALTERNATIVE COURSES FOR MONETARY POLICY
WITH A 1980 OIL-PRICE SHOCK



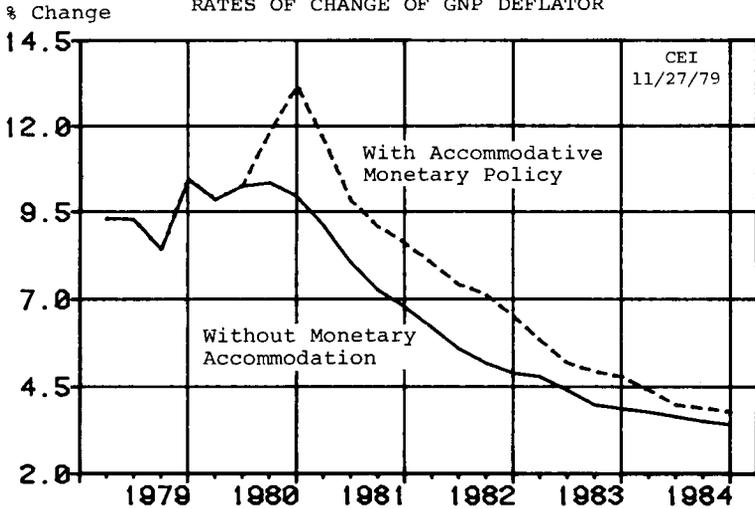
EFFECTS OF A 1980 OIL-PRICE SHOCK ON
REAL GNP GROWTH

RATES OF GROWTH OF REAL GNP



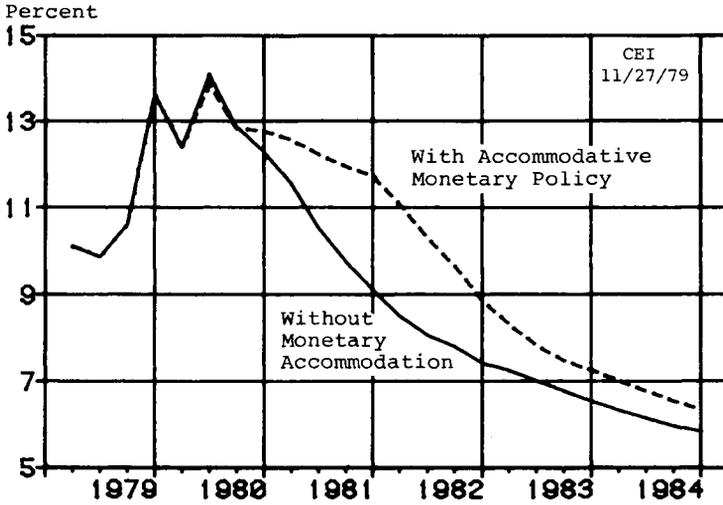
EFFECTS OF A 1980 OIL-PRICE SHOCK ON
INFLATION

RATES OF CHANGE OF GNP DEFLATOR



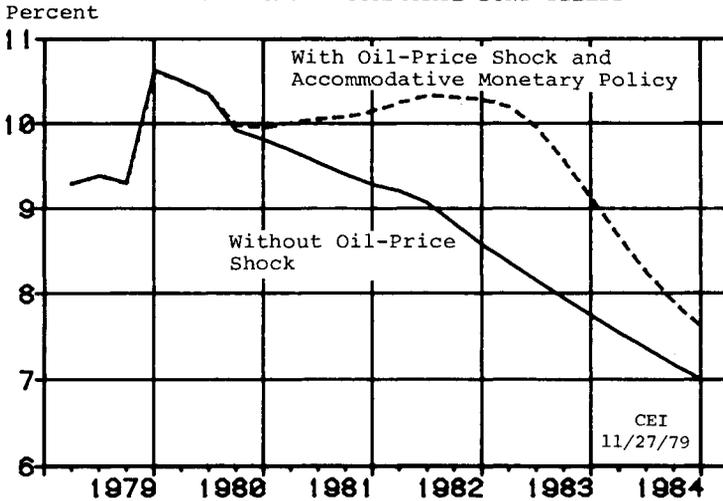
EFFECTS OF A 1980 OIL-PRICE SHOCK ON
SHORT-TERM INTEREST RATES

PRIME COMMERCIAL PAPER RATES

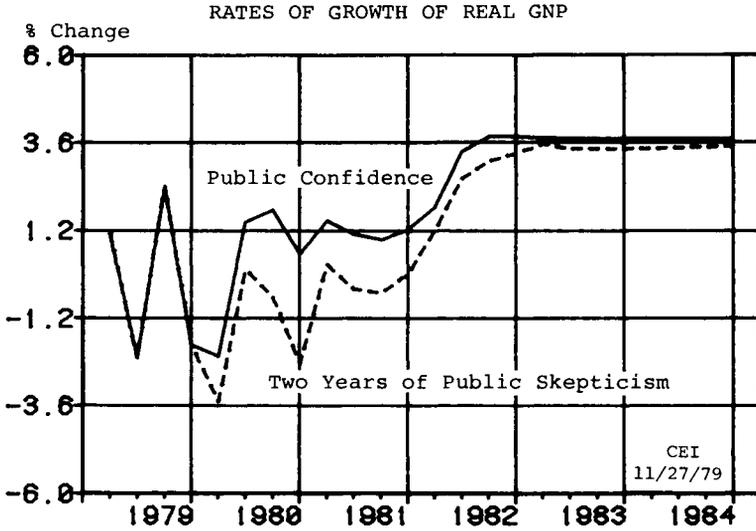


EFFECTS OF A 1980 OIL-PRICE SHOCK ON
LONG-TERM YIELDS

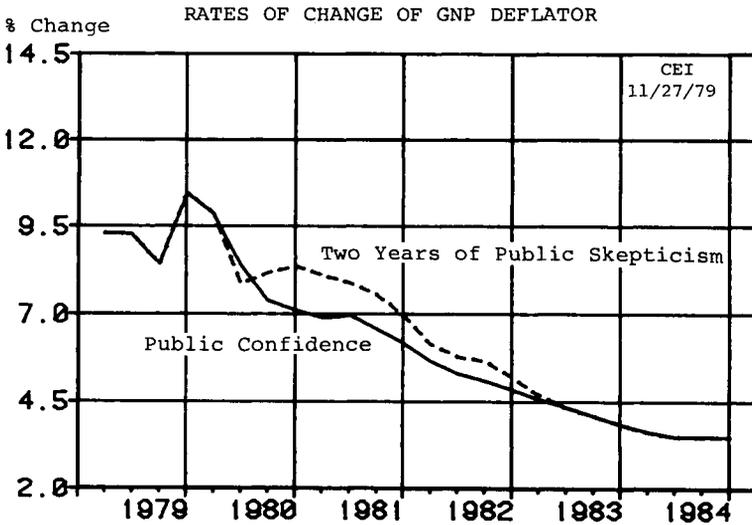
LONG-TERM AAA CORPORATE BOND YIELDS



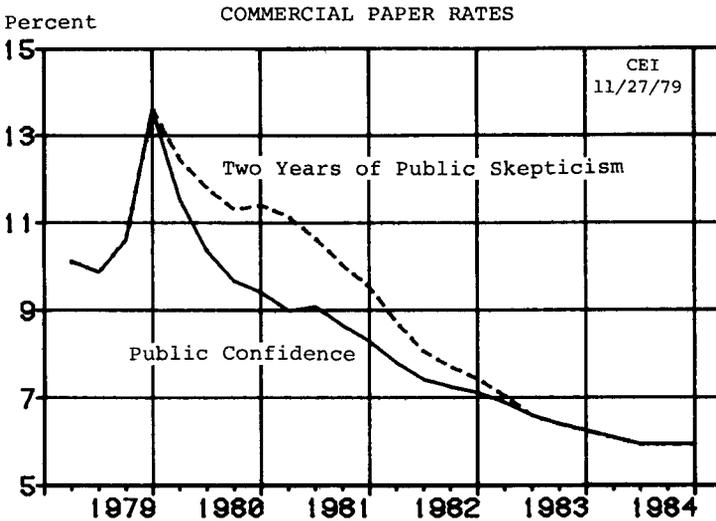
MEASURES TO INCREASE CONFIDENCE IN ANNOUNCED
MONETARY POLICIES REDUCE ADJUSTMENT COSTS:
REAL GNP GROWTH



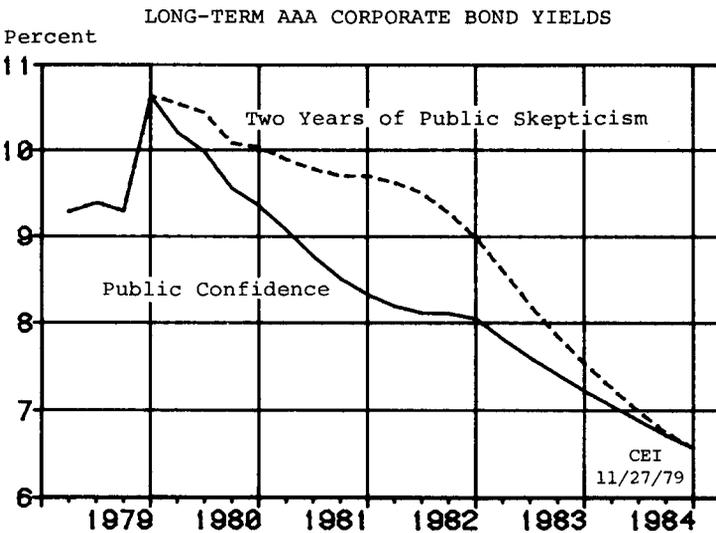
MEASURES TO INCREASE CONFIDENCE IN ANNOUNCED
MONETARY POLICIES REDUCE ADJUSTMENT COSTS:
INFLATION



MEASURES TO INCREASE CONFIDENCE IN ANNOUNCED
MONETARY POLICIES REDUCE ADJUSTMENT COSTS:
SHORT-TERM INTEREST RATES



MEASURES TO INCREASE CONFIDENCE IN ANNOUNCED
MONETARY POLICIES REDUCE ADJUSTMENT COSTS:
LONG-TERM YIELDS



Chairman NEAL. Thank you, Professor.

I just want to say at this point, we tried, when Chairman Volcker was here, we urged him in the strongest terms that I know how to use to pursue the policy that was announced and to make an announcement that he intended to pursue a policy as outlined in our bill, although I frankly, even though I am the author of the bill, would rather see the Fed announce that and stick to it than to see the bill passed.

He agreed that it was his intent to follow this policy and agreed to bring to the further consideration of the Board of Governors a discussion of this matter. I hope that that will result in just such an announcement.

As I listen to your testimony on this subject, I thought that I might send him a copy of it and urge him again to do this. I know he is thinking along these very same lines, and I think he has some reservations that probably make a lot of sense from his point of view.

I agree with you that if we can get better public understanding that this policy will benefit the American public in terms of lower inflation, lower interest rates, stabilized value of the dollar, more employment, that we can get more support for it.

But that is not an easy task because there are all sorts of conflicting voices in our society, many with a great deal of influence which will argue against this kind of policy. It is going to be most difficult in this next year, a political year, not to hear a lot of that.

I thank you for your testimony. We will get back with some more questions a little later on.

Professor Parkin?

**STATEMENT OF DR. MICHAEL PARKIN, PROFESSOR OF ECONOMICS,
UNIVERSITY OF WESTERN ONTARIO, CANADA**

Professor PARKIN. Thank you, Mr. Chairman.

It is a great honor and privilege for someone from an island that is almost sunk under much more inflation that you have yet had to be able to help you in what I think are some of the most important innovations in monetary policy; that is, these very oversight hearings which you are conducting.

I would like to begin by apologizing that I don't yet have a prepared statement, but would ask that I might submit that after the event.

In your letter of invitation you asked me to address two matters—first of all, to assess two alternative strategies for monetary policy and, secondly, to comment on the October 6 policy changes.

I propose to speak to both those points in that order.

First, I would like to examine and offer my own evaluation and assessment of the two strategies outlined in your invitation letter.

Strategy No. 1, which initially calls for placing full priority on stabilizing the foreign exchange value of the U.S. dollar, and after, but only after achieving a stabilization in the foreign exchange market, turning attention to domestic goals of price stability and high employment.

I would in a sense define that policy strategy as a variation on the status quo theme; that is, it is doing what we have been doing in the past, only with a slight variation in that the foreign exchange rate

becomes one of the central initial approximate targets for monetary policy.

I want to try to evaluate what I think would happen if this policy strategy, strategy 1, was followed.

The first thing that is fairly certain would happen is that the U.S. economy would go through either a recession or at the very least a very marked slowdown of real output of growth and a marked rise in unemployment.

Why do I say that? I say that because what is implied by such a strategy is an initial sharp contraction of money supply growth and an initial, perhaps even sharper than we have seen in the past few weeks, rise in short-term rates of interest for a period.

Why do I say this would lead to a recession? Simply because every time that has been done in the past it has led to a recession. The historical evidence is not mixed. This is not something about which there is some uncertainty. It is absolutely for sure that there would be a rise in unemployment.

Just as a matter of interest, on the five occasions since World War II when money supply growth has been cut back for 2 successive years, the unemployment rate has risen in the subsequent year or year and a half by an average of 2 full percentage points.

So that is the sort of thing which we know happens when we indulge in sharp monetary contraction or sharp deceleration of money supply growth rates.

The second thing that we are fairly sure, I think, would happen following strategy 1 is that inflation would abate temporarily, but only temporarily, and thereafter would be succeeded by yet a bigger wave of inflation.

Why would that happen? Well, it would happen primarily because the very sharp contraction of money supply growth that would be implied by strategy 1 would generate an unemployment rate which would then itself trigger an overreaction, subsequent expansion of money growth supply.

Again, the historical record on this is very strong. Every time in the past when unemployment has increased sharply following a deceleration of money supply growth, there has been a subsequent increase in money supply growth and usually and certainly in the case of the last decade of American history, to even higher rates of money supply growth in the new upturn than there had been experienced in the previous upturn.

Now, this is something which we have seen very, very important evidence on. We have seen that countries that have pursued this kind of shortrun monetary policy, trying to beat inflation or trying to stabilize the exchange value of the currency in the short run, thereafter trying to stabilize the employment rate, we see this has uniformly led to accelerating inflation.

The most gross example I suppose is that from my own country, the United Kingdom, which in 1969 through 1972 put itself through the disinflationary wringer and wound up with inflation of about 12 percent down to 8 percent, and thereafter increased money supply growth, so that inflation increased to the middle twenties by 1975-76.

So here is a previous rerun of what that kind of policy would be likely to produce.

Worse than all this, it would be a policy that would insure that interest rates would remain high because there wouldn't be a long-term expectation of inflation reduction. So there would be none of the forces that Professor Meigs talked about would be at work to bring the general level of interest rates down.

Yet, worse than all this, as if this is not bad enough, would be considerable uncertainty on foreign exchange markets themselves. The reason for this is to pursue strategy 1, to pursue a policy of initially targeting on the exchange rate and then subsequently switching tracks to domestic targets would give zero information to market participants in all markets, foreign exchange markets included, concerning what the even medium-term actual policy course of the Federal Reserve system would be.

This conclusion arises from consideration of the virtual impossibility of making accurate predictions of what foreign central bank reactions would be to a sharp deceleration of monetary growth and a sharp rise in interest rates in the United States.

One possible reaction would be to follow suit. One other reaction of the foreigners would be to just let the United States run ahead with its policy and not attempt to retaliate with its own higher rates of interest and slower money supply growth rates.

So until one saw what the foreigner was going to do, one wouldn't know what the Fed was going to do, and there would be a lack of information, and foreign exchange market expectations would be extremely vague and hazy, and the foreign exchange rates would reflect a great deal of instability, short-term ups and downs as a consequence.

In summary, the consequences of following strategy 2 seem to me to be more and worse of the things that we have had in the recent past. It would make the decade of the eighties to the seventies like the seventies were to the sixties; that is, it would be a continuation of the deteriorating trends in monetary stability, not just in the United States but throughout the world.

Let me come to strategy 2, which is to establish and maintain money supply growth targets similar to those—together with a range for money supply growth, not just a point, but a range of money supply growth similar to those set out in your draft bill, H.R. 5476.

I want to evaluate this under three headings—what are the main positive effects that would occur as a result of such a strategy, what are the risks, and are there any extra requirements required to make such a strategy really successful?

First, the positive effects. It seems to me that one very important positive effect is that this is a strategy that the Federal Reserve could follow independently of what is done in Japan and Germany and the rest of the world.

It is a policy, in other words, which can be declared ahead of time and pursued regardless of foreign monetary policy developments. In that sense, it is a policy that gives maximum information to market participants and is likely in and of itself to produce much more orderliness in the foreign exchange market than would strategy 1.

It might not initially produce as large a rise or reduction in the rate of decline of the dollar, but it would certainly produce a more orderly and less perturbed foreign exchange market.

Second, it is a monetary policy which it seems to me at least does as much as monetary policy can do to achieve the unemployment targets of the Humphrey-Hawkins Act by helping to move the unemployment rate by 1982-83 to the lowest conceivable level.

That is not to say that it can achieve the Humphrey-Hawkins target. I don't know whether that target is achievable. Certainly monetary policy alone is not something which can move the unemployment rate permanently very far.

But there is statistical evidence from some recent studies that the amount of monetary uncertainty, the amount of uncertainty from variability in monetary policy, does add to the unemployment rate. This evidence I think has to be taken somewhat seriously.

The third and most important positive effect of strategy 2 is that it is the only policy that we as a profession of economists know that is capable of moving the inflation rate toward the Humphrey-Hawkins target of about 3 percent by the early eighties.

We know of no other way of doing it. So, for that reason alone it is an exceedingly important strategy proposal.

Now, what are the risks of this strategy? The first possible risk that ought to be recognized is that it could conceivably cause a rise in the unemployment rate.

However, on the basis of the historical evidence it seems to be the case that the rise in the unemployment rate that will occur, or that might occur, if strategy 2 is followed is less than what would arise under strategy 1; that is, there may be a temporary rise in unemployment, but it will not be as large as the rise would be under a policy of sharp deceleration of money now to achieve quickly some foreign exchange or even inflation objectives.

The second possible objection to strategy 2 is that it would produce high interest rates. Well, Professor Meigs pointed out, with the aid of some very interesting charts and tables, that that is not foreseen in his scenario, and I want to agree with that.

Indeed, it sound paradoxical, but strategy 2 is the low-interest-rate strategy, it is the low unemployment/low-interest-rate strategy. It is not the converse, which it sometimes is branded as being.

Now, what are the extra requirements that have to be fulfilled in order to make strategy 2, the gradualist strategy, really do the best it can? It seems to me there are two things that matter.

First, it is important that the strategy be adhered to even in the face of temporarily higher unemployment or interest rates than politicians feel comfortable with. Perhaps one should say it is not necessary to stick to it even then, but especially then. That is when most impact would be made on public perception of what future policy is going to be.

The second extra ingredient that seems to me to be required is there needs to be some kind of binding, perhaps legislative commitment, perhaps an H.R. 5476 as an act rather than a bill, which in fact ties the hands somewhat for policy discretion.

Now I say ties the hands somewhat because that draft bill is the most cleverly worded document in this area that I have seen, in the sense that it constrains the Federal Reserve to a trend rate of growth of money supply which is anti-inflationary, and at the same time it gives the Federal Reserve as much flexibility as it has historically

shown itself to need in order to cope with cyclical fluctuations in the economy.

You will recall, Mr. Chairman, that that draft bill provides for a band for money supply growth of 3 percent. That is a target plus or minus 1½ percentage points on either side, the extra extension of which is subject to some additional restrictions, but nevertheless available for the Federal Open Market Committee to pursue.

Now I looked at the actual behavior of money supply growth over the past decade and I noted that the average growth rate of money supply has been exceeded by more than 1½ percentage points on just one occasion—in 1978. That has produced the two-digit inflation that we are now experiencing.

I also noted that the Federal Reserve produced money supply growth more than 1½ percentage points below the average for the last decade on one occasion only. That was in 1975 when the Federal Reserve helped along with OPEC and others to generate the most serious recession that this economy has had to experience in recent years.

In short, Mr. Chairman, I note that when the Federal Reserve has on two rare occasions gone outside the range that your draft bill would restrict it to remain within, problems have arisen.

For the rest of the time the Federal Reserve has managed to stay within that range. So I would summarize strategy 2 as saying if it is bolstered with some kind of more long-term binding requirement to achieve the money supply growth path and target range envisioned in it, then it is a policy that will deliver lower inflation, more stable and higher employment, and lower rates of interest than any other policy that we could devise.

Finally, and briefly, let me say that I think the October 6 policy changes do represent a bolstered step in the right direction. I agree, though, with Professor Friedman that controlling the money supply as a technical operation is not the central issue.

It is the will to achieve a particular path for the money supply rather than the particular technique chosen for achieving it. Although I am extremely sympathetic to the new moves and to the general approach by Chairman Volcker, I would like to see the two missing ingredients that I have already referred to put into place quite soon—one, some lengthening of the term of the commitment; two, some binding of the commitment somehow.

Whether that simply requires the Chairman of the Fed to say I will do it and for us to believe him, or whether it requires the Congress to put some legislative restrictions on the Fed is a matter for your committee to decide.

I personally would favor a legislative approach because it would give more assurance to the market participants, to the general public, that this is for real.

Thank you, Mr. Chairman.

Chairman NEAL. Thank you very much, Dr. Parkin.

Dr. MEIGS, you looked at the relationships between a rapid decline in the money supply growth in terms of its impact on rates of inflation. Do you look at those relationships in terms of the relationship to unemployment?

Dr. MEIGS. Well, the more rapid reduction would mean slower growth in real output, which would mean higher unemployment. The

gradual reduction strategy would mean, I believe, less unemployment than the sudden adjustment to a fixed rate.

Chairman NEAL. Considerably less unemployment, I would think.

Dr. MEIGS. Oh, yes, but for a year or two—then the question is what price would the public be willing to pay to reduce inflation. That is a matter of—

Chairman NEAL. It is essentially a political question.

Dr. MEIGS. Exactly. A lot of economists say it would be better to have a shock treatment, get it over with, and maybe the longrun costs would be less. My personal preference is for the gradual strategy.

Chairman NEAL. It is certainly mine, also. I believe, as your charts indicate, we reach the same goal at about the same time. In the overall picture there is not very much difference in the time we reach the ultimate goal. It would come at a much lesser cost in unemployment.

I think that the country—it would be my political judgment that the country would not support any rapid escalation in the rate of employment. It would be unnecessary if we would follow the more gradual approach.

I just wanted to get on the record whether or not you would be more likely to endorse the gradual approach over the more rapid approach, and I see that you do.

Dr. Parkin, some recent statistics regarding the relationship of monetary policy to unemployment. I wonder if you could tell us what it was that you referred to.

Dr. PARKIN. There is a study by Prof. Paul Evans of Stanford University, which is currently in mimeographed form, being circulated around to economists—I am not sure whether any of my colleagues have had an opportunity of seeing this, but it has been widely circulated.

What it does is to calculate a statistical series called monetary uncertainty that runs from the 1920's through the 1970's, together with some other relevant series, and then explains the movements of the unemployment rate in the United States all the way from the middle twenties through to the present time.

It even helps to explain some of the persistently high unemployment in that Great Depression period which previously had puzzled economists and defied explanation.

The theoretical idea is simple enough and is contained in Milton Friedman's Nobel lecture, sort of the theory of the reversed slope Phillips curve, the idea that higher inflation makes for higher unemployment because it increases the amount of monetary uncertainty and makes it necessary for market participants to invest a greater amount of time in search activity than they would otherwise do.

Whether these statistical ideas would stand up to full scrutiny is too early to say, but here is a piece of carefully conducted statistical work by a very careful scholar that points in that direction.

Chairman NEAL. I am certainly glad to know about it. It makes commonsense to me.

On this question of whether we ought to pursue a legislative approach as opposed to an announcement by the Fed, of course the first step I think under any conditions would be for the Fed to make some sort of strong public statement to the effect that they are going to pursue this policy over a long period of time.

I believe all three witnesses agreed that that is an important element, and whatever influence you have with Chairman Volcker I wish you would let it be known to him you feel that way, and we might forward him your testimony to this effect.

I think it would be hard to quantify, but I would think that would make the process of bringing down the rate of inflation go much more rapidly, and it would have beneficial effects on the dollar, employment and so on, as I think all of you have indicated. I certainly agree.

On the question of legislation, would any of you see any disadvantages to the legislative approach? I have real questions about it.

In my own mind, in the absence of a strong commitment to a long-range policy, I think the legislation would be very desirable. If we could get a long-range commitment from the Fed that meant something—and I don't know quite what that means—what would be your thought on the two approaches?

Dr. MEIGS. One point I think implicit in your statement about what the disadvantages would be—and all of us would agree—is that it would be undesirable for the Congress each year to legislate a rate of growth for the money stock for that particular year. It is not the appropriate forum for doing that.

Chairman NEAL. Absolutely.

Dr. MEIGS. The key point is to get this binding commitment to a long-term strategy of reducing inflation, which would then reduce uncertainty among market participants in financial markets, labor markets, consumer markets, exchange markets.

So, the key point is getting a commitment to a stable policy defined in terms of, preferably, some monetary aggregate. It doesn't matter too much which one is selected—just so something is stabilized over a long period. The markets would be relieved of the fear of sudden unannounced reversals in policy, such as those we have had so many times in the past.

Dr. FRIEDMAN. Mr. Chairman, I agree the Congress is not the right place to take decisions about the year-to-year rate of growth of the money supply, in part because of well-known reasons for insulating this decision as much as possible from the short-term realities of the political process.

I think there is another, more technical, reason for this conclusion that to me is equally important. In your opening remarks this morning you included ATS accounts along with the usual components of the M_1 money stock, and I agreed with you earlier on doing so. ATS accounts, however, constitute a development that is very recent. If we had participated in these hearings 2 years ago, it would not have occurred to us to include such an item as ATS accounts.

The problem here is that our financial institutions are not unchanging, and the public's preferences with respect to its money balance holdings are not unchanging. I can just cite one example for the future. There is a substantial movement under way to exempt from the personal income tax the interest received on certain kinds of consumer deposit balances. It is very difficult to believe that the consuming public's choices about how to hold its financial assets would be unchanged if the Congress were to pass such a measure. Nevertheless, if the public's preferences about how to hold its cash balances did

change because Congress exempted from income tax savings account interest someone would have to decide the technical issue of how to adjust the targets of money growth at which the Federal Reserve should be aiming. It is clear that the target which is appropriate when savings account interest is taxed would not be the target that would be appropriate under a different tax regime.

The issue, then, is who is best suited—not just by technical expertise, but as a forum for discussion of such issues—for the technical problem of deciding how to adjust monetary targets in the face of whatever shifts of consumer deposit balance preferences emerge. Again I suggest that, on a year-to-year basis, the Congress is not a very good forum for working out these technical matters. This is yet a second reason for being cautious about implementing the legislative approach on a short-term basis.

Chairman NEAL. Of course, what we had in mind, a temporary definition of money supply—what we are talking about is whatever is in a bank and checkable, from now on. We don't care how that changes.

Would you like to comment on that point?

Professor PARKIN. Yes, thank you, Mr. Chairman. Legislating the money supply growth rate is not a business that would yield very high returns.

Chairman NEAL. We certainly don't envision that. Let me assure you of that.

Professor PARKIN. The real question is how can we best achieve credibility for medium- to long-term commitments to a steady disinflationary money supply growth pattern.

Certainly for the central bank—in this case the Federal Reserve Board—to announce a path for monetary supply growth such as that set out in your own draft bill would be a remarkable step forward and would in and of itself help considerably to reduce uncertainty about medium-term inflation and interest rates and would improve the working of markets. It does, however, leave itself open to the problem that a subsequent Governor or a subsequent Board of the Federal Reserve could do something different.

A law similar to your own bill, which as it were provides a sort of background of stability within which the Federal Reserve can exercise its discretion, would seem to me to be yet another reinforcement of the credibility of the system. So, I would see it as not an either/or matter. For the Fed to commit itself is better than nothing; for the Congress to reinforce the Fed would be better still. Just how much better and how much we would gain, of course, we can only speculate because we have not seen anything like this. This is very new and totally untried.

May I just very briefly finally say that of course Professor Friedman is right to point out that there is a problem about how one defines the money supply. But once a definition or a criterion for defining the money supply—in your case, Mr. Chairman, it is a criterion for saying what would be included—then all that seems to me to matter is to insure the target growth rate for that aggregate, whatever it is, is such that once account has been taken of the predicted change and its velocity of circulation, and once account has been taken of the best prediction that you can make of the trend growth rate of real income,

the desired trend rate of inflation emerges. It is inconceivable to me that whichever aggregate we picked we could make inflationary mistakes—that is produces inflations that we didn't intend to occur—that were bigger than 1 or 2 percent per annum. I would have thought that we would all agree that that would be success. If we could have the inflation bouncing around between 0 and 3 percent, that would be all right. It would not be heaven, but it would certainly be better than what we have been achieving in the recent past.

Chairman NEAL. I would like to ask you to comment on one other thing and then yield to my colleagues.

In trying to deal with the broad question of inflation with my constituents at home, I ordinarily say something like in my own opinion, if you looked at the long range—by long range I mean in this case 50 years, 100 years, 200 years—that you could argue that all inflation is probably caused by excessive money growth.

If you look at the short range—and by that I mean 1 year, 2 years, 3 years, 4, 5 years, some relatively short period of time—then it seems to me to be useful to try to look at what we might call monetary inflation and something we might call price inflation, which I guess are sort of arbitrary, imprecise terms.

Then I go on to say I think in the short term we could say that probably 50 or 60 percent of the inflation today is monetary inflation, and the other 40 or 50 percent would be divided between oil price increases and other structural elements of our economy, such as minimum wage, cost of living increases in labor contracts, regulatory costs—the whole range of other themes like this.

Then I go on to say if we are going to do something about the basic cause of inflation we have got to bring down the rate of growth in the money supply, and if we want to deal with these other elements of inflation, we have to look at them one by one and see if we think their inflationary impact, their cost, is worth their benefit.

In some cases I personally think that it is. In other words, I vote for increases in veterans' benefits and social security and so on, even though I know they have an inflationary impact. I think that it is worth the cost in these specific cases because I think the costs are relatively minor.

I would like to have all of you just briefly comment on this kind of understanding and see if you think it is accurate or not, or how would you improve upon it, trying to understand the situation in which we find ourselves today.

Dr. FRIEDMAN. I am sympathetic to what you said, Mr. Chairman, with the exception of the notion that the inflationary costs imposed by such matters as the minimum wage and a long list of other measures is minor. The evidence is counter to that, in a sense that is somewhat subtle and therefore warrants clarifying.

Too often we simply assume that the longrun rate of growth of the money stock is determined by some magic process that has nothing to do with the political realities of the time. I think that that is not correct. Instead, the economy generates pressures, and then the Federal Reserve must make what is often a very difficult choice about whether or not to accommodate those pressures.

If we had continual increases in payroll taxes, and in certain kinds of benefits, and in sugar price supports, and in minimum wage levels, and in other similar items, and if the Federal Reserve were able or

willing to resist the pressure to accommodate those increases, then over long periods of time the Federal Reserve's policy would determine the longrun inflation rate.

Nevertheless, the accumulation of these inflationary measures builds up pressures which, more often than not, the Federal Reserve is forced to accommodate. If it doesn't, it risks a rise of unemployment or a fall of real incomes, which will lead to an even greater inflationary pressure after the next political go-round.

In fact, therefore, all of these measures have a longrun and lasting and very major inflationary impact that operates because they are not independent of the way in which the money stock is allowed to grow over the long term.

With the exception of that distinction, I believe that I support what you said, Mr. Chairman.

Chairman NEAL. How would you quantify, in your own mind, the short-range elements of inflation? I said something like 50 or 60 percent monetary. To try to be more precise, I might try to say 60 percent monetary inflation, maybe 25 percent oil prices, 15 percent for everything else.

Would that seem like a reasonable sort of division?

Dr. FRIEDMAN. I see no reason to differ with that breakdown. My point, however, is that the 60 percent that you attribute to the rate of monetary growth in fact is an indirect reflection of many of the other things that have been taking place earlier on. For example, had the OPEC prices not gone up, and had the minimum wage not increased, and had sugar prices not been supported, and had payroll taxes not been increased, the pressures on the Federal Reserve to allow the money stock to grow by the amount that accounts for what we can agree is 60 percent of the inflation would not have been nearly so great. Hence that 60-percent factor would itself have been much smaller. Drawing fine distinctions between the monetary part and that due to the institutional measures, without acknowledging that today's monetary part reflects yesterday's institutional measures, may be quite somewhat misleading.

Chairman NEAL. Thank you.

Dr. MEIGS. Some of this was involved in the little experiment we did on whether the Fed should accommodate an oil price shock. Some economists argue that if one important price rises, if you are going to keep the average constant, some other price has to go down, and we all know, so it is said, no price ever comes down.

That is a fallacy. Prices do adjust in relative terms, but adjustment is not always short and pleasant. That generates some of the pressures that Professor Friedman is talking about.

There are two components to these pressures on policy. One is the sort of pressure on the Federal Reserve to do something about unemployment. That is a direct policy response. I think a more subtle one, and perhaps more important as an explanation of some of the trouble we have got into, is that by pegging interest rates, the Federal Reserve has made itself accident prone. That is, most of the major accelerations and decelerations in money growth in recent years have been, I would say, accidents. If they would stop pegging interest rates, then we would have fewer accidents.

There are two kinds of accidents. The oil price increase, which generated increases in some prices and raised inflation expectations, tended

to raise interest rates. The Federal Reserve then amplified this real disturbance by increasing the growth of money stock.

There could be an accident on the other side. If, for some reason we don't understand, the economy tends to go into recession, interest rates tend to fall, then an interest rate targeting approach by the Fed, assuming they are slow to adjust the interest rate targets, means a deceleration, a slowing down in money growth. Then the Fed would give the economy a downward push which has already been induced by some real disturbance.

Over the long record, I think you can find many instances in which Federal Reserve policy, rather than resisting pressures, has amplified disturbances in the real sector of the sort you point out.

In going back over the record it is very hard to disentangle these. But I think the kinds of disturbances you point out probably cost us in real output, income, employment over time, but are not in themselves a cause of inflation.

Chairman NEAL. Would you find this kind of analysis that I used with my constituents helpful, accurate enough to be helpful?

Dr. MEIGS. Well, I personally would be cautious about going that way because it is very popular to blame inflation on whichever price is going up at the moment.

When we have inflation and unions come in with wage settlements, people say the unions are causing inflation. If farmers happen to be getting very good prices for livestock, then it is farmers causing inflation. If later on it is the auto industry that raises prices, they are causing inflation. These are not explanations of the inflation. They are explanations of changes of relative prices. It would be a service to the public to differentiate those a little more carefully.

Confusion is rampant. So I think I would just keep holding them to the monetary explanation, to say we have centuries of experience, observations in many countries, many different kinds of monetary systems, which show that if the money stock, whatever it is, grows more rapidly than potential output, you have inflation and that there are many, many instances of reductions of inflation coming when you reduce the growth of the money stock. Keep their attention on the the longer run implications of current policy and not let them be too much diverted by the immediate situation.

Professor PARKIN. I think I would go along somewhat with my colleague, Professor Meigs. I would be somewhat hesitant to feel comfortable with your characterization of some fraction of inflation being as it were caused by prices being pushed up and some other fraction being caused by money. I think I would want to say that inflation, to quote a famous passage, "is always and everywhere a monetary phenomenon arising from too rapid a growth rate in the money supply," a statement that is attributable to Milton Friedman many years ago.

To underline this, let me, if I may, point out some recent statistical features, not of this country, but of two other countries, which in 1973 suffered exactly the same oil shock as this country did, only worse, because they, unlike this country, relied 100 percent on imported oil from the OPEC countries.

I refer to two countries in Europe, Switzerland, and Germany. In the face of that same oil price shock, those countries permitted domestic oil prices to rise much more quickly and to much higher levels than

you did in the United States. At the same time, the Bundesbank and the Swiss National Bank pursued tight monetary policies. The inflation rate in Switzerland in 1974, the year following the OPEC price rise, was 9.7 percent; by 1975 6.7 percent; by 1976 1.7 percent; 1977 1.3 percent; 1978 1.1 percent. This is the result of monetary policy. Germany's inflation in 1974 was 7 percent, and then in each successive year, 5.9 percent, 4.5 percent, 3.9 percent, 2.6 percent respectively. Inflation was squeezed out as a result of pursuing tight monetary policy.

So what we observe is that variations in inflation rates either over time or across countries can be explained by variations in money supply growth rates, not by all the other thousand and one things that can push prices here and there. So, if I was telling your story, Mr. Chairman, I would tend to put 100 percent on the monetary and zero percent on the price push. Although that is an exaggeration it is in the right direction. I could be persuaded that 90 to 10 or somewhere around there is perhaps correct.

But the central factor that comes across when one looks at the international as well as national evidence is that it is monetary policy that is the key variable factor. More importantly, it is the one and only variable factor that is manipulable by policy.

To be told that a thousand and one prices have increased for a thousand and one reasons is not to be told what you can do about inflation. But to be told that it is caused in the main by monetary expansion is to be told what can be done to stop it. So for two reasons—one because I think it is a more important variable and two because it is controllable—I would place the emphasis on money.

Chairman NEAL. Thank you.

Mr. Cavanaugh?

Mr. CAVANAUGH. Thank you, Mr. Chairman.

Dr. Friedman, I am interested in your discussion concerning the lack of emphasis on credit by the Federal Reserve, and I wonder if you might give us a little more detail as to how, first of all, you might define credit, and then how you feel that the Fed might be more accountable in taking credit into account in the development of policy.

Dr. FRIEDMAN. Yes, sir. Let me focus initially on the second part of your question, and then go back to the first.

Under House Resolution 133 passed and also under the Humphrey-Hawkins Act, the Federal Reserve is required to state in advance and to report to the Congress not only targets for the monetary aggregates but in addition targets for credit. To a certain extent, my suggestion is already in the legislation.

The fact, however, is that the experience of the Federal Reserve in meeting the targets that it has set during the past several years has been very different with respect to credit than with respect to money. By and large, despite all of the discussions of the failure of the Federal Reserve to hit the money targets, until the last 18 months or so the Federal Reserve has done pretty well in hitting its four-quarter-ahead monetary targets. By contrast, it has done much worse in hitting its credit targets, and not only in the sense that, on a simple numerical counting exercise, it has missed the credit target more often than it has missed the money targets. In addition, it has typically missed the credit target by greater margins than it has missed the money targets. Last summer, for example, the rate of expansion of bank credit on an

annual basis was approaching 20 percent for several quarters. As to what measure of credit one might use, the first part of your question, I have no very fixed views. In the same way that it is important to establish a monetary target, but then much less important to work out exactly which monetary target we have on the credit side also, much more important than exactly which credit measure we use is simply to have some measure from the other side of the balance sheet; that is, some measure of banks' or other lenders' assets as well as their liabilities.

For the same reason that we usually prefer to look at either M_1 or M_2 —namely, because under current institutional arrangements they are measured more accurately and more rapidly than M_3 or any other broader monetary aggregates—I suspect that some credit measure relating primarily to banks, or maybe to banks plus the commercial paper market, would be the easiest to implement. Which credit measure we use, however, is a second-order problem compared to the importance of having some measure drawn from the other side of the balance sheet.

My point was simply that both sides of the balance sheet contain information that is important to economic activity. If the public is borrowing in great volume, and if the banks are lending in great volume but financing that extension of credit out of liabilities that do not happen to be included in whatever definition of the money stock we are using at the moment, that is information we want to use and not throw away.

Mr. CAVANAUGH. To what do you attribute the Fed's lack of success of hitting the credit target?

Dr. FRIEDMAN. My sense is that it has not tried. I think it is quite clear that the dominant variable that the Federal Reserve has used over recent years has been M_1 . To the extent that it has used something different from M_1 , they have looked at M_2 . Anything like bank credit—or the credit proxy, which is really total bank liability—has been awarded third place at best.

Mr. CAVANAUGH. You are saying that they do nothing now?

Dr. FRIEDMAN. I hesitate to be that extreme, but my sense from reading the policy records is that, if credit is outside the range of the credit target, that is deemed to be less of a cause for action than if M_2 is outside of its range and far less than if M_1 is outside of its range.

Mr. CAVANAUGH. What is your understanding of what policy they adopt to hit their credit targets, what methods do they employ?

Dr. FRIEDMAN. The same ones that they use for the money targets. When monetary expansion was too great, under the previous regime, the response was typically to raise the Federal funds rate.

My understanding of how the new policy will work is that, if the Federal Reserve is implementing a certain rate of growth of bank reserves in the expectation that that will lead to a certain growth of M_1 , M_2 , and bank credit, then if, for example, M_1 is growing too rapidly, it will cut back on the rate of growth of bank reserves and expect that to lead to M_1 growth falling back into the targeted range. The real issue is what happens if, for example, M_1 is about on target, and M_2 is slightly above the range, and bank credit is very much above its targeted range.

Mr. CAVANAUGH. Which has been the recent experience.

Dr. FRIEDMAN. Yes, sir. My understanding is that, in such a circumstance, the Federal Reserve has been inclined not to respond. This is not something that has to do with the tactical issue of whether the response mechanism keys off interest rates or off reserves. It could just as easily happen under a reserve targeting mechanism, too.

Mr. CAVANAUGH. We have talked about monetary policy. Have you any comments on fiscal policy?

Dr. MEIGS. In terms of fiscal policy, I would like to have as stable a fiscal policy as possible, as well as a stable monetary policy. I believe the history of this country demonstrates that instability in monetary policy probably has done more to cause shortrun changes in fiscal policy than the other way around.

So that if you were to stabilize monetary policy, have a more stable price level to have more stability in the economy, you would have fewer swings in the budget. That would make it possible for fiscal policy decisions to be concentrated more on allocation questions, such as how big a Defense Establishment do we want, how big a Government, and much less on trying to adjust the budget year by year to try to offset changes in the economy.

That has not worked well in any country I know of. So that fiscal policy question is to me less important in shortrun swings in the economy. Fiscal policy is terribly important in determining what kind of economy we have, what kind of country we have over long periods, and should not be confused with trying to stabilize the economy in the short run.

Professor PARKIN. If I may add to that, I would like to suggest that while I don't think you have a shortrun cyclical fiscal policy problem I do believe that you have a longrun trend fiscal policy problem, in the sense that the overall scale of the deficit that has to be financed is uncomfortably large and cannot be maintained in the long run. A deficit as large as currently being experienced is probably going to be financed with some inflation despite the best will in the world to avoid it. So I would see a need to get that deficit down. I would have thought that a gradualist policy on this would be the only way to go. I don't see how you can sensibly cut public spending overnight, and I don't see how you can sensibly raise taxes overnight. These are actions which are best taken gradually and with some help from the real growth of the economy.

Dr. FRIEDMAN. Congressman, I would adopt a different perspective. I do not believe that the Federal deficit is very large right now. The fact is—

Mr. CAVANAUGH. You are awfully lonesome.

Mr. FRIEDMAN. I agree, but the fact is that, adjusted for the Federal Government's lending activities, the deficit has averaged \$10 billion per annum in the first three quarters of 1979. That is a deficit of less than one-half of 1 percent of the GNP. I would just as soon that \$10 billion were zero, but I find it difficult to get upset about the Federal Government running a deficit of \$10 billion per annum at this time. I would also point out that State and local governments, collectively, are now running a surplus in excess of \$30 billion a year, so that the Government sector as a whole is running a surplus of approximately 1 percent of the GNP.

I think that that is about appropriate under the current circumstances. A net surplus for the Government sector is a good idea at

this point, not only because of our inflation problem, but also as a way of helping to spur capital formation, which is a major problem that lies perhaps outside the scope of this hearing but is an important subject for congressional action nonetheless.

Hence, I do not believe that the size Government deficit that we have right now is a problem.

Mr. CAVANAUGH. I don't want to take time from my colleague. But your \$10 billion figure, you are not projecting that that is going to reflect the aggregate deficit for this year. The CBO is in excess of \$20 billion. The fourth quarter is—

Dr. FRIEDMAN. I think the difference is somewhat different, Congressman. The usual number that is used is for the unified Federal deficit, which includes certain lending activities of the Federal Government.

By contrast, what I used is the one that economists are more familiar with; namely, the national income accounts deficit, which excludes the lending. From a fiscal policy perspective, if the Federal Government borrows in the credit market and then relends to someone else in the credit market, that is not fiscal policy. It is a reallocation of credit. It is the Federal Government acting as an intermediary. We would not want to include that in the Federal budget any more than we would include Fannie Mae or the Home Loan Bank Board, which are conventionally excluded from the Federal deficit. When you take out the Federal Government's borrowing for the purpose of relending, some minority of which takes place directly through the Treasury rather than through these off-budget agencies, it is then that you get this figure of \$10 billion.

The answer, finally, is, yes, I would expect that approximately to reflect the total for this fiscal year.

Mr. CAVANAUGH. Thank you, Mr. Chairman.

Chairman NEAL. Mr. Evans?

Mr. EVANS. I have no questions, Mr. Chairman.

Chairman NEAL. On the question of credit, isn't there a relatively consistent relationship between money and credit, and shouldn't our focus essentially be on money rather than credit?

Isn't credit limited in effect by the amount of money available, and wouldn't it be a mistake in effect to pay too much attention to the levels of credit over any very short term because they are influenced very greatly by short-term factors?

Dr. FRIEDMAN. On the assumption that that was directed to me, Mr. Chairman, I believe that there is much in what you said. In the first instance, if the relationship between money and credit growth were perfect—if an increase in one always meant an exact increase in the other, and vice versa—then of course it would make no difference which one we used. They would simply be identical.

The fact, however, is that the two are not perfectly related, for reasons having to do with the regulatory structure of the banking business. The most outstanding example, again, would have been what was happening a year ago. Reserves against demand deposits were as usual, but reserves against Eurodollar borrowing were zero. From last August until this October, therefore, banks had an overwhelming incentive to finance their lending activities and their securities purchases not by issuing ordinary money liabilities, but in the Eurodollar market.

It is not surprising that banks responded to that incentive, so that we had a very weak rate of money growth but a very strong rate of credit growth. Until a month ago, this was the first business cycle in U.S. postwar history in which, at this stage of the cycle, banks were not only making a large amount of loans but not having to liquidate their securities portfolios in order to finance those loans. Banks were not only lending great amounts of money but also able to increase their securities holdings all through this period.

Chairman NEAL. But business was in decline, business was weak.

Dr. FRIEDMAN. Yes, sir. For the precise nature of the relationship, the answer is that the correlation between the M_1 measure and bank credit over the postwar period has been approximately 0.6. That is the simple correlation. So, yes, there is substantial correlation, but the correlation is far from perfect.

Finally, you asked if it would be a mistake to place too much emphasis on bank credit. Of course it would be a mistake to place too much emphasis on anything. It would also be a mistake to place too little emphasis on bank credit. There is substantial evidence showing that the right amount of emphasis to be placed on bank credit is probably not the same as the amount of evidence to be placed on money. The evidence favors placing more reliance on money than on credit, the right amount of emphasis to place on credit is not zero—which, at a first approximation, is what we do now.

Chairman NEAL. That 0.6 ratio that you mentioned, is that four-quarter basis or year on year? What would it be year on year?

Dr. FRIEDMAN. I don't know, but what is generally true is that, regardless of which pair of aggregates we look at, whether it is the relationship of M_1 to M_2 or M_1 to bank credit or M_2 to bank credit, over a longer and longer period of time the relationship between any two of them always gets greater. My assumption without knowing the fact is that, if the M_1 to bank credit relationship is 0.6 quarterly, over a 1-year time span it would be significantly greater than that, and over 5-year time span I think it would be pretty close to perfect.

Chairman NEAL. So looking at the long term, if I am following you, it is relatively unimportant.

Dr. FRIEDMAN. Yes, sir.

Chairman NEAL. So that would be my conclusion.

Dr. FRIEDMAN. Yes, sir, I am agreeing with that. If what we were talking about were what the Federal Reserve should do on average over the next 5 years, I don't think that the money versus credit distinction is of any importance at all.

If the issue is what the target should be over the next 1 year, however, I think that the issue is of some importance. If the issue is how the Federal Reserve should respond if after one quarter of a year the aggregates seem to be moving away from their 1-year targets—that is to say, we set targets from now until a year from now, and in February we discover that the aggregates are not moving the way we wanted them to do, so after 3 months of things not happening the way we wanted, we then do something different in the reserves market—I would say that for gaging the response after 3 months, the difference between money and credit is definitely large enough to be substantial, and worth paying attention to.

Chairman NEAL. Thank you.

Would either of the others like to comment?

Dr. MEIGS. I would say there is a lot of virtue in keeping things simple. If the Federal Reserve has too many targets to follow, that makes it more difficult for you to make them accountable. As a forecaster, I have not found a way to improve my forecasts by paying more attention to credit than to money supply. That is just one small bit of evidence.

I do remember quite a few instances in which the Federal Reserve became very much concerned about what they thought was over-expansion of a particular form of credit; for example, business loans of large banks to corporations. In 1966 they became so preoccupied with trying to hold down bank lending to corporations that they accidentally caused a very sharp reduction in growth of the money stock. There was a conflict of targets there, which did bring on a mini-recession; 1969 was a similar story.

I think we have some danger currently, or recently, of the same kind of confusion. It is just a fact that near peaks of business cycles corporate borrowing from banks increases. That doesn't mean that the banking system or the Federal Reserve is doing something that is contrary to policy. I would rather have them concentrate on controlling the monetary aggregates.

If I make a loan to one of my children, the supply of credit in the country increases. That doesn't necessarily mean that total spending increases, because their spending power is increased and mine is reduced.

You could assume, of course, that my children would spend the money faster than I would. That is the only effect I can see from paying attention to credit as compared to paying attention to the monetary aggregates.

Professor PARKIN. I have nothing of substance to add. Mr. Chairman, other than to underline what Dr. Meigs has said. I agree with him.

Chairman NEAL. I am just sorry that more members of the subcommittees couldn't be here to hear what I think has been excellent, fascinating, very helpful testimony. I just want to thank you all for appearing. I want to thank you as deeply as I can.

Any advice that you have for us as we move along in this area we would welcome at any time. Thank you again for being with us.

The subcommittees are adjourned.

[Whereupon, at 12:30 p.m. the joint subcommittees adjourned.]

MONETARY POLICY

Goals and Conduct for the 1980's

TUESDAY, DECEMBER 4, 1979

HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON DOMESTIC MONETARY POLICY, AND SUBCOMMITTEE ON INTERNATIONAL TRADE, INVESTMENT AND MONETARY POLICY OF THE COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS,

Washington, D.C.

The subcommittees met jointly at 10:05 a.m. in room 2128, Rayburn House Office Building, Hon. Parren J. Mitchell (chairman of the Subcommittee on Domestic Monetary Policy) presiding.

Present from the Subcommittee on Domestic Monetary Policy: Chairman Mitchell, Representatives Neal and Hansen.

Present from the Subcommittee on International Trade, Investment and Monetary Policy: Chairman Neal, Representatives Oakar, Lowry, Campbell, and Shumway.

Chairman MITCHELL. This hearing will now come to order.

Today, ladies and gentlemen, we conclude our joint hearings on "Monetary Policy, Goals, and Conduct for the 1980's." The principal question which must be answered is whether the Federal Reserve's new policy will be able to wind down inflation without causing or contributing to recession. As I asked in my statement on November 13, when these hearings began, "Can we pull it off? Can we reduce rates of monetary growth without inducing a recession?"

Other questions, such as the impact of the Federal Reserve's new policy on foreign exchange rates and interest rates, can be subsumed under this question.

Developments since October 6, when the new policy was announced, have been mixed. At first, the dollar firmed on exchange markets—a positive development, but interest rates soared—a negative and somewhat perplexing development. Since late October, interest rates have dropped but the dollar has weakened on exchange markets. However, the recent weakening of the dollar on foreign exchange markets may reflect events in Iran more than the fundamental economic trends.

I am sure our witnesses today will help to enlighten us about developments in foreign exchange, money, and commodity markets, as well as about our chances of unwinding inflation without inducing a recession.

Before introducing the members of the panel, I would turn to my distinguished colleague Stephen L. Neal of North Carolina, who has been gracious enough to share these joint hearings with us.

Chairman Neal, do you have an opening statement?

Chairman NEAL. Yes. Thank you.

Mr. Chairman, as you pointed out, this is the third and final day of this set of hearings on conduct of monetary policy in the 1980's. The first 2 days of hearings have been very enlightening. I would like to offer a brief summary of some of the conclusions we could draw from testimony given during those days.

The witnesses we have heard from so far all support the major policy initiated by the Federal Reserve, on October 6, the decision to try to control bank reserves directly instead of the Federal funds rates.

They agree that this switch in the technique of monetary policy should enable the Federal Reserve to achieve better control over the money supply. One witness, Professor Friedman, from Harvard, was uncertain that the switch would actually lead to better control, but supported the effort to try on the ground that there is no reason to expect it to be worse, and our past failures to achieve control should encourage us to experiment with new methods.

All witnesses agree that stabilizing growth of the monetary aggregates around a noninflationary trend was the most important single objective of monetary policy. Professor Friedman was concerned that monetary policy should also pay attention to the behavior of credit aggregates in the short run, though he admitted that the choice between money and credit was not important for a longrun strategy.

All agreed that excessive monetary expansion was the single most important—indeed, the overwhelmingly most important—cause of inflation in the long run. This interpretation does not neglect the inflationary pressures generated by other factors—oil prices, payroll taxes, budget deficits, and so forth—but stresses that the ultimate impact of those factors on the rate of inflation depends upon the Federal Reserve.

That is, it depends on the Federal Reserve's willingness to accommodate those pressures by creating more money, or resist them by adhering to a noninflationary path for the money supply.

Professor Parkin pointed out that Germany and Switzerland both suffered a greater inflationary shock from the 1974 increase in oil prices than did we, and both experienced an immediate sharp jump in inflation. But monetary policies in those countries succeeded in bringing inflation down to the 1- to 3-percent range within a couple of years.

Finally, two of our witnesses—Professor Meigs and Professor Parkin—strongly supported my efforts to get the Federal Reserve to commit itself to a strategy for controlling the money supply over a long period into the future, not just a year at a time.

The legislation I have introduced, H.R. 5476, is designed to make it clear that inflation will be arrested and gradually reduced over the next few years. If we could get a credible commitment from the Federal Reserve to pursue such a strategy, inflationary expectations would be reduced, the dollar would stabilize on the foreign exchange market, long-term interest rates would begin to recede, and even if we did go into a mild recession, our recovery from it would be stronger and more

lasting, because it would not be accompanied by another round of runaway inflation.

I am delighted that we have two panels of such distinguished experts in monetary economics before us today. The conclusions I have drawn from our previous testimony are strong and powerful, though controversial. I am eager to hear an assessment of them by today's witnesses.

Thank you, Mr. Chairman.

Chairman MITCHELL. Thank you. I have checked with our other two subcommittee members who are present, and they do not have opening statements. Therefore, I will now introduce the first panel.

We will hear from Dr. Peter Berman, of the Bank of America, Prof. Karl Brunner, of the University of Rochester and University of Bern, Switzerland, and Dr. Michael Hamburger of New York University.

Gentlemen, I welcome you on behalf of the subcommittee, and thank you for appearing before us today, and we will proceed with your testimony. You have two options; I think we have copies of all of your testimony before us, and if you so desire, you can request that the entire testimony be submitted for the record, and speak to the salient points in your testimony, or you may decide to present your testimony in its entirety, that is up to you.

You may elect your own option. In fact, I will exercise only one prerogative of the Chair, and that is to call on the first witness—and that settles that one—Professor Brunner, would you lead off for us, please?

STATEMENT OF PROF. KARL BRUNNER, UNIVERSITY OF ROCHESTER

Professor BRUNNER. Thank you very much, Mr. Chairman, gentlemen of the subcommittees. I am delighted to have an opportunity to speak to the issues which you have formulated just before.

I will summarize my statement to hit the major points.

My statement first covers the inheritance from the past and the sad heritage which has accumulated through our policy failures over 15 years.

The next section of my statement examines essentially the two alternative procedures considering policy, as laid out in the letter signed by the two chairmen of the subcommittees involved on October 12, and subsequently, in the last section, I discuss some problems of implementing proper control of monetary growth, a problem which, in my judgment, the Federal Reserve has not faced up to so far, even after 6 years of its operations.

Now, with respect to the first section of my statement, I simply want to emphasize that we have now, since 1965, a policy of increasing inflation. Until 1965, monetary policy had been proceeding on a remarkable course of comparative stability. There were three or four inflationary surges during this period from 1945 to 1965, and they were effectively contained by low growth of the money stocks.

Now, there was a shift in monetary policy very clearly occurring around the middle of the sixties. Since then we have stayed on this inflationary course; there were several attempts at reversal, but they were quickly abandoned, usually within less than 1 year. In 1976 and

1970, and 1970-71, and 1972 again, a rather famous case, and then again in 1975-76.

Now, as a result of all of that, we have reached the situation of October 6, further pressure on the dollar after the debacle of 1977-78, and even further acceleration in the inflation rates, to double-digit figures again.

So Chairman Volcker pronounced what the issue was on October 6, and three items in his program are presented. First, reserve requirements on a specific array of nondeposit liabilities. Second, the discount rate was raised by one percentage point. Third, we were promised that the Fed, which had looked more substantially at interest rates in the past, would look less at interest rates in the future and be more concerned about the evolution of monetary aggregates.

Well, in terms of an anti-inflationary policy, if I wished to evaluate what is going on, the following has to be said. With respect to the raise in reserve requirements on this array of nondeposit liabilities, this raises essentially the cost of operation to the banks, it imposes a tax on the banks with revenues going to the Federal Reserve.

It puts an additional wedge between the interest rates charged to the customers of the banks on their loans, on the one side, and against interest rates paid to customers of various deposit or liability types on the other side.

We have had a small "once and for all" effect on the money stock, with very little persistent effect on monetary growth at all. From the point of view of a persistent anti-inflationary policy, it contributed very little if anything at all to cope with our problem.

The raising of the discount rate again, by itself alone is marginally significant. The discount window contributes only about 1½ percent of the total amount of base money issued by the Federal Reserve, and any time—as it happened in October, 1965, when President Johnson was inviting the Chairman of the Board to Texas, in order to talk to him about the highs in the discount rate—the Federal Reserve can overcome that any time through massive open market operations.

And so the discount rate—the rise in the discount rate plays a role in the specific circumstance; namely, when the Fed decides to lower its open market purchases, to lower the growth rate in the monetary base, then a rise in the discount rate is appropriate in order to prevent that; the discount window becomes an escape hatch through which the lowering of the monetary base is sort of offset to some extent.

So it depends crucially on what the Fed is really doing in terms of its total operations bearing on the monetary base and upon monetary growth.

Now, the third point by itself alone, again is rather weak, and deserves some clarification, particularly as it stands. It indicates to me that the Federal Reserve itself is not quite clear how to go about, in terms of controlling monetary growth.

Now, the letter of October 12, which was sent out, gives two alternative procedures with respect to monetary growth, and I will quickly attend to that.

One is essentially a continuation of past policy centered on interest targeting. The other involves a shift to really a deliberate monetary targeting, a targeting of monetary growth.

My point in this respect is simply this: that interest-targeting policy is a device which creates substantial problems for an effective

monetary control, that interest targeting in the past contributed to opposing the movement of monetary growth, contributed to amplified economic fluctuations, and particularly, also, that it is a device which makes it very difficult to assess what really has to be done.

I mean by that the following: The question is sometimes raised, "Well, how much does the Federal funds rate have to be raised in order to really get things under control?" I submit that nobody really knows the answer to that one; we don't have the detailed knowledge to answer that question, particularly as the relationship between the Federal funds rate and monetary growth is exceedingly loose and very unreliable. Exactly this looseness and unreliability has created the problem in the past. It created to a large extent the unreliable monetary growth patterns and deviations from targeted policies which we have experienced in the past 5 years since House Concurrent Resolution 133 was passed in March 1975.

Now, there is a better alternative than to proceed this way, as in the past, but we never quite know what will really emerge until the circumstances, and this is to make a deliberate attempt to control monetary growth.

Now, the letter raises several questions. What about the international aspects of the Humphrey-Hawkins bill, the goals of the Humphrey-Hawkins bill? What about the interest effects, and what about finding and committing decisions in this respect?

Well, on the international aspects, I wish to mention the following: That the problem which we are confronting is a problem of domestic inflation and international disarray expressed by confusion and uncertainty on the exchange markets, now particularly expressed by the debacle of the dollar over the last 2 years, or even longer, in the last 5 years.

Now, the solution to this—both problems—is essentially the same. What we have to do is get hold of our monetary growth. By appropriate monetary growth control, we can both cope with domestic inflation problems and we can also cope with international problems. The dollar still remains a currency, for a variety of reasons I do not wish to elaborate at this point, but it still remains, and it is a responsibility which the United States has, to make sure that these functions are proper.

The functioning really means that we do control our monetary growth, that we cope with domestic inflation, and there will be a lot of countries in Europe which will be very happy to follow suit—actually just waiting that the U.S. policymakers really make decisive gestures and decisive and committing moves in this direction. This will be the most important gesture which we can make in order to contribute to a stable international monetary order.

Now, with respect to the Humphrey-Hawkins bill, we have a choice between two alternatives. One, we continue with the past policies of the last 15 years, or we proceed with a definite, deliberate, and determined anti-inflationary policy.

On the first tack, we certainly will not cope with inflation; the inflation will get worse and more erratic. Also, unemployment will not be lowered; actually, the average inflation—the probability is that it will drift slightly higher, on the average.

On the other side is a determined anti-inflationary policy that will certainly cope with inflation. On this tack, we should get out of infla-

tion and have a stable price level in 4 or 5 years at the latest. Unemployment is certainly not decreasing over this period. The average—the normal rate of unemployment will probably go down slightly. We will be nearer to the goals of the Humphrey-Hawkins bill with that policy than with the alternative of continuing as we have been doing over the past 15 years.

Lastly, with interest rates, with a binding commitment, interest rates—there is one way only to lower interest rates. Chairman Volker has repeatedly stated that, in repeated interviews on television—“Face the Nation,” “Meet The Press,” and so on—we have to get out of inflation.

If the prime rate is more than 15 percent now, and was 4½ percent between 1961 and 1965, with a stable price level between 1961 and 1965, then it is essentially the result of the current inflation rate reflected in the prime rate. If we lower inflation, we lower interest rates.

Now, with respect to binding decisions and committing decisions, the problem which the Fed faces is credibility. We had four attempts at an anti-inflationary policy which were promptly abandoned. The record is perfect: 100 percent.

Now, the problem at this stage is: How do we create credibility? If we create the situation where we move to an anti-inflationary policy with strong expectations that this policy will be abandoned again at the first whiff of problems of pressure, we will never get out. Then we will stay on inflation and we will drift higher and into more erratic inflation.

In order to make it credible—and this is necessary in order to minimize the social cost of an anti-inflationary policy—we will have to make clear that it is binding and committing in the strongest terms possible.

Now, the last point in the last section, which I wish to emphasize just shortly; the problem is not just to say that is what we do. One also has to execute it in a reliable fashion, and this is a problem, somehow, I wish the Fed would really face up to in one fashion or the other.

There are technical procedures to control monetary growth. Now, the Shadow Policy Committee—the Shadow Open Market Committee has repeatedly laid out the details. I summarize these details again in my paper here, in my opening statement, but I don't want to do this immediately now; I just simply indicate this.

I simply indicated also that this procedure is exactly the one which was executed by the Swiss National Bank from 1973 and 1974 on. That certainly worked quite effectively, and if it abandoned it in the last year—the middle of last year—it was not because of any technical problems, but simply, essentially, the political pressure from the export industry which arose as a result of the drifting of the Swiss franc relative to the dollar.

Now, the problem is here that somehow, in the strongest terms, I wish to draw the Federal Reserve staff's attention to the problem which one faces here, and what should be done in these terms, and having heard some proposals coming out from the Federal Reserve staff to control the reserve base, and what this involves, I make some computations. I present some computations—pardon me—from one of my friends of the Shadow Open Market Committee, to indicate

that very probably, this procedure which they are considering will be less satisfactory than the procedure which we have proposed over the past 4 years, time and again.

But this is very temporary. The real issue is that the Federal Reserve staff should really look into the procedure, so that we really get ultimately over the next 4 years, a handle on this problem and get out from inflation.

I submit to you that we can do that if we really want to.

[Professor Brunner's prepared statement follows:]

**Statement Prepared for the Hearings on Monetary
Policy — Goals and Conduct for the 1980's**

**Subcommittee on Domestic Monetary Policy
and
Subcommittee on International Trade, Investment and
Monetary Policy**

**U.S. House of Representatives
Washington, D.C.**

December 4, 1979

**Karl Brunner
University of Rochester**

The Choice and Implementation of Monetary Policy

Opening Statement

I. The Inheritance from the Past

This country's monetary policy adopted around the middle of the 1960's a radically different course. The early postwar inflation, the Korean inflation and the inflationary surge of the middle 1950's were all rapidly contained by a low rate of monetary growth. This policy produced a period of remarkable stability of interest rates, price-levels and of the maintained rate of economic expansion during the years from 1961 to 1965. Beyond this period, monetary policy moved along a track of accelerating inflation. All attempts to reestablish a stable price-level were usually abandoned within less than one year.

Three years ago the rate of inflation had dropped to 4.5% p.a. and US policy-makers had another opportunity to lower the rate of inflation even further over the subsequent years. A well designed monetary policy could have assured us a stable price-level beyond 1979. This opportunity was forfeited with another burst of inflationary policies pursued by the Board of Governors and supported by the White House. Within less than one year domestic inflation accelerated again and the price of the dollar fell on exchange markets. Our financial policies thus produced severe international repercussions and imposed burdensome adjustments on many other countries.

The international reaction eventually caught the Carter Administration's attention and an "anti-inflationary and dollar support program" was launched on November 24 and October 1, 1978. This package still added no substance to the

accustomed rigmarole generously labelled as an anti-inflationary policy. President Carter offered no comment or commitment involving a determined reversal of our monetary course with the definite promise to maintain a stable price level. The major thrust of the program was concerned with a vast network of intervention operations on exchange markets in order to support the dollar. As it happened, the growth rate of the monetary base was substantially lowered until March/April 1979. This pattern contributed to the moderate rebound of the dollar relative to the low level observed in the fall of 1978. But the tradition of the Fed prevailed once more. The monetary base accelerated rapidly beyond March 1979 and moved to levels exceeding those experienced in 1978. The newest failure of Federal Reserve Policymaking became quickly recognized on exchange markets and reenforced the inflationary momentum inherited from previous failures. The basic inflation rate produced by this trend moved to 9% - 10% p.a. The promise of a determined anti-inflationary policy has, once more, been revealed as a political gesture without effective translation into relevant and reliable actions. The outcome observed during this summer and fall was quite unavoidable under the circumstances.

Almost one year after the debacle of the dollar unfolding in 1977 and 1978 wakened the attention of the Carter Administration, Chairman Volcker was forced to address on October 6 the same circumstances. The latest program covered three different aspects: Reserve requirements on an array of non-deposit liabilities of commercial banks were raised, the Fed's discount rate was increased and lastly, a promise given (once more) that the Fed would in the future be less concerned with interest rate targeting and more attentive to monetary targeting than in the past. The first item in the package essentially imposes a tax on the banks with the revenues accruing to the Fed. This tax raises the cost of issuing specific liabilities and expands the wedge between the average interest paid by banks on the one side and charged on the other side to customers. It lowered slightly the money stock

with no persistent effect on monetary growth. In view of the futility of the gesture as an anti-inflationary gesture one may wonder whether the action was prompted by the Fed's old confusion between credit and money.

The second action, the increase of the discount rate, is by itself alone somewhat irrelevant. Only about 1 1/2% of the total monetary base was issued via the discount window. This window played for many decades a marginal role in our domestic money supply process. Any increase in the discount rate can always be overcompensated by suitable open market purchases. Such overcompensation occurred subsequent to President Johnson's objections in October 1965. A decision to lower the growth rate of the monetary base does require however an adjustment of the discount rate in order to prevent the discount window from offsetting the lowered rate of supplying base money via open market operations. The significance of the first two actions mentioned depended to a large measure on the interpretation of these announcements. They were understood to signal a new turn in Federal Reserve policy. The behavior of the markets revealed however that this interpretation was burdened with a massive uncertainty bearing on the precise meaning of the announcement. This uncertainty was particularly fostered by the last item in the package and the varying interpretations subsequently supplied by other officials. Chairman Volcker promised that monetary policy would proceed differently in the future, with more attention to monetary control. But the nature and detail of the new course and procedure remained obscure. One suspects that the Fed's bureaucracy has still not grappled, after more than 60 years, with the technical and institutional requirements of monetary control. It appears at this stage that House Concurrent Resolution 133 adopted in March 1975 involved, in the view of the Fed's bureaucracy, no obligation on the Fed beyond some rhetorical adjustments.

II. A Reexamination of Policy Procedures

Chairman Volcker's announcement on October 6, followed by his forthright and admirable discussions in the repeated public interviews, focuses our attention on the fundamental issues confronting our policymakers. We face two major and closely related problems: domestic inflation and the confusion and uncertainty prevailing on the international exchange markets. Both problems fortunately require the same solution. A reduction of monetary growth to a non-inflationary level distributed over several years with a reliable anticipation by the majority of market participants would produce, after at most five years, a stable price-level at a comparatively small social cost. The social cost associated with this policy is actually much smaller than the social cost of permanent and erratic inflation. The reduction of monetary growth also forms the crucial condition for a stable international system. The dollar functioned for many decades as a "hegemonial currency". We need not explore the reasons for this evolution but we can compare it to the emergence of a "lingua franca" necessary for worldwide communication. The very persistence of the dollar's hegemonial role, inspite of the accumulated history of policy failures, reveals the social advantages of such a "vehicle currency". An acceptance by US policymakers of the condition required for a stable domestic price level also involves ultimately an acceptance of the responsibility confronting a hegemonial currency area. The break-down of an international monetary order was foremost the result of the hegemonial currency area's refusal to recognize the international responsibility associated with this position. This international responsibility is however quite consistent with the long-run domestic responsibility of monetary policy. Once this is acknowledged and well understood we need to clarify the appropriate strategy assuring the most reliable achievement of our goal. The letter of October 12, mailed by Congressmen Neal and Mitchell specifies two alternative strategies. My subsequent comments

examine the comparative advantages and problems associated with these alternatives.

1. An Interest-Target Approach

One approach would continue the procedures established over the last decade for the execution of monetary policy. The staff assesses first projections of gross national product over the next four quarters and feeds these projections into a money demand function in order to determine a relation between the Federal funds rate and the money stock. Given the projected output growth, inflation rate and the projected monetary target path, the money demand function determines a sequence of Federal fund rates consistent with the projections prepared. The FOMC chooses on this basis a Federal funds target rate best geared to assure the desired monetary growth. The account manager is then instructed to adjust open market operations according to the location of the actual market rate relative to the target rate selected for operational purposes. A market rate exceeding the target rate induces open market purchases whereas a comparatively low market rate may induce open market sales.

The accumulated record of performance offers substantial information about this procedure. We note first that it produced a pro-cyclic movement of the growth rate of monetary base and money stock. The adjustment of the selected target rate typically lags behind the prevailing market conditions. We observe thus under the circumstances a rising monetary expansion whenever market forces raise interest rates and a receding monetary growth whenever interest rates are substantially lowered by market conditions. The mode of executing monetary policy contributed in the manner described on many occasions to the cyclic component in the evolution of our economy.

This aspect of the Fed's traditional policy procedure bears importantly on our current prospects. Implementation of lowered monetary growth with the aid of an

interest targeting procedure involves a serious risk that the resulting monetary deceleration will be too large and rapid relative to the inflationary expectations built into price setting behavior as a result of our past failures. This pattern occurred during the winter of 1974/75 and reenforced the sudden fall in activity initiated in September 1974. An interest targeting approach to the required monetary deceleration risks under the circumstances a larger recession and a larger social cost than the alternative procedure discussed below.

A more general point need be made concerning the realization of monetary growth via interest control. The record of the 1970's exhibits a remarkable pattern of deviations from the desired monetary growth target. The performance measured in terms of deviations from the announced monetary growth path is quite poor. This pattern results moreover only to a small extent from errors of projecting national income. The observed failure is dominantly produced by a highly unreliable and very loose relation between money stock (or monetary growth) and the Federal funds rate. This unreliability of the central relation anchoring the Fed's implementation of monetary policy determines the basic flaw of the interest targeting procedure. This flaw is clearly revealed with the question how much the Fed needs to raise the Federal funds rate in order to lower monetary growth (or the growth rate of the monetary base). The crucial fact is simply that nobody knows the answer. This is an immediate consequence of the fundamental unreliability of the central relation governing policy procedures in the context of an interest targeting. This uncertainty implies that policy produces with large probabilities target changes which are either too small or too large.

Lastly, an interest target policy tends to misdirect public attention. Short-run changes in interest rates tend to be attributed to the policymakers even when they dominantly reflect current market forces. Of course, the current conditions on credit markets reflect the accumulated inflationary thrust embedded in nominal

interest rates produced by a history of excessive monetary growth. We should also note in conclusion that an interest target approach poses substantial uncertainties to foreign monetary authorities. The erratic behavior of monetary growth produced by the traditional technique obscures the signals conveyed to international markets and impairs whatever coordination may be feasible.

2. A Monetary Targeting Approach

Under this approach the FOMC essentially accepts the unanimous recommendation advanced by the Committee on Banking, Finance and Urban Affairs last March. The Federal Reserve Authorities should publicly announce a time path of declining monetary growth. This path should eventually lead to 2% or 3% p.a. by 1983/84. The announcement need be made with all the "pomp and circumstance" required to assure a skeptical public that the old game has vanished. The announcement might usefully be coupled with a full explanation to the public by the Chairman of the Board without reinterpreting comments from other officials.

A number of questions were raised in the letter of October 12 pertaining to the monetary target approach. The first refers to some international aspects and asks in particular whether the Fed could proceed with such a policy independently of other Central Banks. The answer for the USA is most affirmatively yes. I indicated above, that the policy of explicit monetary control expresses the responsibility of a hegemonial currency area. European Central Banks would surely welcome a determined acknowledgement of American monetary responsibility and probably follow the financial lead provided. There emerges under the circumstances a much more stable international monetary order. The new policy would prevent in particular a further fall in the price of the dollar on international exchanges. With an increase in confidence that the Fed really has mended its ways, the dollar may even improve somewhat on the exchange market.

The response to the question concerning the achievement of the goals stated for 1983/84 by the Humphrey-Hawkins Act needs to compare two alternative policies. We can either continue the past course of inflationary policies or accept the House Committee's recommendation. In the first case we will experience rising and even more erratic inflation rates in the future. But a permanent and erratic inflation will not lower unemployment. There is even a danger of a further increase in the average rate of unemployment. A policy of gradual deceleration of monetary growth will certainly lower inflation over the next four years. It may also slightly lower the average rate of unemployment. The proposed course moves the economy, in balance, nearer to the goals emphasized by the Humphrey-Hawkins Act. It will not be able, by itself, to achieve the unemployment goal of 4% p.a. without supplementary institutional reforms which have been discussed in the professional literature. The essential point to be emphasized however is that a continued policy of excessive monetary expansion neither copes with inflation nor does it lower the average rate of unemployment. The monetary policy recommended last March by the House Committee is much better attuned to the requirements of the Humphrey-Hawkins Act. It does involve of course some risks of a temporary increase in unemployment and a corresponding loss in output. But this social cost can be lowered by the gradual decline in monetary growth and a major attempt to raise public credibility in the Fed's policy. But even with a positive social cost of an anti-inflationary policy we need to reiterate that the social cost of the alternative (inflationary) policy is substantially larger.

One of the questions reflects the widespread concern about interest rates. Chairman Volcker repeatedly emphasized over recent months that the rise in interest rates is dominantly attributable to inflation. The difference in the prime rate between 1961/64 and this fall measures about eleven percentage points. This difference corresponds closely with recent inflationary experience. Any instruction

to the Fed to lower interest rates by means of further monetary expansion would only produce more inflation and still higher rates of interest in the future. Excessive monetary expansion is the surest way to raise interest rates. There is only one procedure to lower interest rates permanently to the levels experienced in the early 1960's: a policy of monetary control which assures a stable price-level. The initial impact of such a policy, or of incipient expectations about such a policy, will raise the level of interest rates. But this impact effect lasts at most for a few months and will be followed by a persistent decline.

The credibility of the Fed's policy was emphasized on several occasions in previous paragraphs. This credibility was particularly linked with the magnitude of the social costs produced by an anti-inflationary policy. This policy needs at this stage to be binding and committing in the strongest possible way. The longer the period of erratic inflation and the larger the accumulated number of aborted "anti-inflationary" policies, the greater is the social cost of both anti-inflationary and continued inflationary policies. The temporary accommodations to this or that pressure emerging on the political horizon erode the confidence in the Fed's anti-inflationary policy and lengthens the period required to establish credibility. A policy of temporary accommodations quite likely steers the economy back to the course of permanent inflation.

III. The Implementation of Monetary Control

A decision to abandon an interest targeting approach and institute a control over monetary growth does not assure by itself a more reliable execution of monetary policy. The Fed's bureaucracy faces at this stage a crucial responsibility. It should publicly accept the responsibility to develop a reliable technique for controlling monetary growth. Congress may well instruct the Federal Reserve Authorities to examine such techniques and present a case on behalf of its preferred procedure.

The Shadow Open Market Committee submitted on repeated occasions a detailed proposal for monetary control to the public's attention. The procedure involves four steps.

- a) The first step concerns the determination of the required non-inflationary rate of monetary growth. It includes at this stage also a determination of the path guiding monetary growth to a non-inflationary level by 1983/84.
- b) A second step requires a statistical evaluation of the relation between the money stock and the monetary base. This requires a careful projection over the next four quarters of the profile expected for the monetary (base) multiplier.

The first two steps determine the required growth rate of the monetary base.

- c) The Fed then evaluates in a third step the movement of all the source components of the monetary base for the immediate week and month. This yields a computation of the required net volume of open market transactions for the ensuing week and month. This required net volume will be formulated as an instruction to the account manager. The FOMC may allow him some discretion in the distribution of the sum over the week and the month.
- d) Lastly, in a fourth step, the Fed reexamines with the aid of new information the expected profile of the monetary multiplier, compares the actual and computed movement of the monetary base with its components over the past weeks or months and determines in the light of this new information the required net volume of open market transaction for the following month.

No step in this procedure is beyond the technical capacity of the Fed. Whatever the statistical preparations and groundwork may involve, it is hardly more demanding than the econometric modelling and money demand estimations already proceeding in the context of traditional policymaking. The first step requires information about the normal rate of real growth and the trend in velocity. The second step confronts the Fed's staff with an unfamiliar procedure. The feasibility of the technique involved is however not untested. The Swiss National Bank used that technique under much more difficult conditions. A member of the Shadow Open Market Committee (Robert Rasche, Michigan State University) developed this procedure in some detail for the conditions of the USA. The results were published in the reports of the Shadow Open Market Committee and most particularly in the report issued in September 1979.¹ The analytic procedure has been described moreover in a paper, "Predicting the Money Multiplier", jointly authored by James M. Johannes and Robert H. Rasche, and published in the July 1979 issue of the Journal of Monetary Economics. Both the experience of the Swiss National Bank and the experimental results produced thus far by Johannes-Rasche suggest the technical feasibility of step two. The third step poses no problem for the Fed. It has already all the information required for this purpose, and the fourth step repeats the procedures in order to absorb systematically the new information.

A successful application of monetary control still requires some additional attention to the following aspects. The Shadow Open Market Committee emphasized over a number of years the importance of a reliable data base and the role of institutional adjustments. The Fed should be instructed to direct more and continuous attention to the economically relevant measures of the money stock and

1. These reports are available upon request from the Center for Research in Government Policy and Business at the University of Rochester.

the monetary base. The conceptual and measurement problems were, with the exception of the occasion of the Bach report, somewhat neglected in the past. Some of the data problem emerged moreover as a result of the innovations encouraged by regulations and inflation.

The inherited regulations and arrangements were so far never examined in the light of the basic responsibility of the Fed. They involve essentially an implicit system of taxes and subsidies with little relation to the central purpose of monetary policy. A preliminary assessment suggests that our prevailing arrangements probably raise the shorter-run variability of the monetary multiplier and thus aggravate the monetary control problem. The Fed might usefully explore the feasible changes of institutional arrangements and regulatory devices which effectively simplify monetary control.

The Fed exhibited so far no interest in the proposal advanced for some time by the Shadow Open Market Committee. The announcement of October 6, induced apparently a search for another mode of implementing policy. This search seems however confined by the inherited views and bureaucratic constraints. Most disturbing in this context are the signs suggesting a revival of ancient notions. The "reluctance theory" of bank borrowing, which dominated the Fed's conception during the 1920's into the 1930's and affected policy deep into the Great Depression (note the large increase of reserve requirements in 1936/37) surfaces again - and so does attention to free reserves. The "reluctance theory" is thoroughly discredited by the most basic economic analysis and is on a par with the propaganda of the Flat Earth Society. Attention to free reserves emerged beyond the 1930's in order to generalize the "reluctance theory" and accommodate for the persistent occurrence of excess reserves. But the free reserves doctrine of the 1950's and early 1960's suffered, as a simple generalization of the original "reluctance theory", from the same glaring laws. It is useful to remember that reliance on such conceptions

explains the dismal and tragic record of the Fed's policymaking during the Great Depression. It seems time that we move on beyond such dangerous misconceptions.

The most promising suggestion signalled by the Fed's officials centers on a reserve targeting procedure. The Fed should certainly be encouraged to examine the performance quality of such a technique of monetary control. But this is hardly sufficient. The Fed should really feel obliged, in the best interest of a reliable execution of monetary policy, to compare systematically the suggested procedure with the proposal made by the Shadow Open Market Committee. This comparison centers on the two distinct multipliers linking monetary base or total reserves with the money stock. A tentative analysis indicates that both the monetary base multiplier and the reserve base multiplier depend on exactly the same set of proximate determinants. But the nature of the dependence differs substantially. The monetary multiplier responds more sensitively to variations in the currency ratio, whereas the reserve multiplier responds much more sensitively to variations in the adjusted reserve ratio (i.e. the banks observed reserve ratio adjusted for changes in reserve requirements) and the time deposit ratio (i.e. ratio of time to demand deposits). One would suspect at this stage that in the context of similar orders of variability exhibited by the proximate determinants the derived variability of the reserve multiplier exceeds the corresponding variability of the monetary multiplier. This proposition should not be accepted however without substantial further investigation. Robert Rasche already initiated a systematic comparison of the forecast errors associated with the projections based on the two multipliers. The detailed results will be developed in a paper presented at the forthcoming American Economic Association meetings in Atlanta. The paper will be published with other contributions to "The Public Accountability of the Federal Reserve System" in the form of a Symposium published by the Center for Research in Government Policy and Business at the University of Rochester.

The table attached to my statement shows a definite advantage for the monetary multiplier. The forecast error associated with the monetary multiplier appears to be substantially smaller than the forecast error resulting from the reserve multiplier. This result, however provisional and uncertain, should be sufficient to motivate some probing research guiding eventually the Federal Reserve's rational choice of policymaking procedures.

Summary of Forecast Errors for Three Distinct Periods
(in percentages)

		Errors for the period 1/1979-8/1979 based on 1978		Errors for the period 5/1979-8/1979 based on 3/1979		Errors for the period 7/1979-8/1979 based on 6/1979	
		mean absolute error	RMSE	mean absolute error	RMSE	mean absolute error	RMSE
M_1	m-m	.56	.70	.92	.95	.47	.47
	r-m	1.45	1.60	.89	.96	1.36	1.37
M_2	m-m	.52	.59	1.21	1.28	.04	.04
	r-m	1.11	1.27	1.19	1.21	.96	.98

Notation: **RMSE:** root mean square error
 m-m: monetary multiplier
 r-m: reserve multiplier

Chairman MITCHELL. Thank you very much, Professor Brunner. Dr. Berman?

STATEMENT OF DR. PETER I. BERMAN, BANK OF AMERICA

Dr. BERMAN. The theme of my prepared statement is that the proper focus of monetary policy in the early 1980's should singlemindedly be restoring the integrity of our currency. As a practical matter we first need a national commitment to reasonable price stability as our No. 1 economic priority. Once the Federal Reserve is provided with a shield against short-term pressures, we need required that it steadfastly follow over a 2½- to 3-year period a well advertised and carefully monitored program of a phased reduction of monetary stimulus from the 6- to 7-percent rate of recent years to about 3 percent annually, in line with our potential real growth rate.

Over the last 15 years the goals of maximizing employment and output through stimulative aggregate demand policies have clearly taken precedence over the goal of maintaining the purchasing power of our currency. Unfortunately the rate of monetary stimulus used to stimulate aggregate demand has been well in excess of our potential growth. As a consequence the general price level has doubled in the 1970's and inflation is well recognized by the American people as a serious problem.

If we are to restore price stability—prices increased an average about 2½ percent yearly in the halcyon 1950's—we need a reordering of our priorities with a firm national commitment to that goal. Then we need consider specific policies once our national commitment to price stability is made. While we are long on explanations about inflation, few enjoy solid empirical support. My research suggests that a phased reduction in M_1 money growth is essential for any successful anti-inflation program. I find that for the 1970's less than 1 year's increase in prices came from factors other than excessive monetary stimulus. I recommend careful consideration of a phased reduction in M_1 money growth over a 2½- to 3-year period. While that suggestion does not preclude adopting other sensible anti-inflation policies, such as fiscal restraint, productivity enhancement and accelerated capital goods depreciation, ending our policy of excessive monetary stimulus is an essential requisite to achieving price stability.

I wish to emphasize that is especially important that the phased money growth reduction program proceed in a well advertised and consistent fashion in which the quarterly targets are well specified. The financial community, both here and abroad, and the general public need real confidence that the program will indeed be followed through. Without such confidence, expectations cannot be readily changed and at least a 5- to 6-year program would be required.

Unfortunately our experience with target achievement by the Federal Reserve has not been successful. One way of illustrating this point is comparing the growth of the M_1 money supply in the 4 years since House Concurrent Resolution 133 with the 4 previous years. In the 4 years since the resolution was passed, M_1 has grown at a 6.6 percent rate on average, about the same as the 6.1 percent average figure in the 4 years prior to the resolution. Moreover those rates exceed Federal Reserve's long run targets for M_1 money growth.

While the refocus announced in the October 6 initiative is a useful step, the proof of policymaking is in the pudding, not intentions or statements of purpose. To affect inflation expectations and ultimately inflation itself we need a phased reduction in the rate of M_1 money growth. That requires successful pursuit of several years duration. October 6, then, is but a small step.

It is worth emphasizing that it is unreasonable to place the entire burden on the Federal Reserve unless we do in fact erect a firm umbrella with a strong national commitment to restoring the integrity of our currency as our No. 1 priority. With that umbrella in place we have good reason to believe, that by the end of 3 years, a phased M_1 growth reduction on the order of about 1 percent per annum would, in fact, bring inflation down to 3 to 5 percent per year.

If done in a carefully monitored and well publicized fashion this program need not incur any downside risks on output and employment. Indeed we would know, 2 to 3 years in advance, what rates of monetary stimulus would be injected into the economy by the Federal Reserve. That knowledge alone would greatly reduce uncertainty about national economic policy. We could expect new vitality in our economy with that uncertainty removed.

Summing up, we have two urgent tasks ahead of us in the 1980's as regards monetary policy. First, we need a national commitment placing price stability as our No. 1 economic priority. Second, with that umbrella in place, we need require that the Federal Reserve temporarily abandon for 2½ to 3 years its discretionary mode and steadfastly undertake a phased reduction in M_1 money during that period. That program is in our national interest and I recommend its adoption.

[Dr. Berman's prepared statement follows:]

Testimony Prepared For

Joint Hearings on

"Monetary Policy - - Goals and Conduct for the 1980s"

Subcommittee on Domestic Monetary Policy and

Subcommittee on International Trade, Investment and Monetary Policy

of the

Committee on Banking, Finance and Urban Affairs

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Peter I. Berman
Bank of America

Introduction

I appreciate the opportunity to present my views on the important topic of "Monetary Policy -- Goals and Conduct for the 1980s ." As I read the record over the last 15 years, the priorities of encouraging output and employment have taken clear precedence over the priority of maintaining the purchasing power of our currency. During the unprecedented peacetime inflation of the 1970s prices have nearly doubled and at current rates of increase they will again double within eight years. For both domestic and international considerations there is strong need to make the integrity of our currency our number one economic priority, and once that umbrella is raised, steadfastly implement purposeful policies to serve that end. Unless that umbrella is firmly in place, short run pressures will negate the best designed and intended policies. That has been the lesson of the 1970s; the nation can no longer afford that luxury. The proper focus for monetary policy in the 1980s should be restoring the integrity of our currency.

The consequences of failing to pay careful attention to the integrity of our currency in the 1970s are highly visible in both domestic and international arenas. Although the dollar for some decades has remained the world's principle trading and reserve currency by the sheer size of the United States economy, it understandably comes under severe pressure when it depreciates faster than currencies of our major trading partners. The doubling of the dollar price of gold this past year is a forceful reminder that the continued integrity of the dollar is questioned. Since crude oil is dollar denominated,

the O.P.E.C. countries have a strong self interest to raise the dollar price of crude oil to at least keep pace with the declining purchasing power of the dollar. Unfortunately, there is little prospect that these price hikes and the great uncertainty surrounding them, with their disruptive effects on the economies of the industrialized and developing economies alike, will moderate unless more attention is paid to restoring the integrity of the dollar.

On the domestic scene, public monies set aside to aid the disadvantaged in our society are seriously eroded by continuing inflation, thereby denying the achievement of important social goals. Funds invested in private pension plans by millions of Americans under the presumption that their Government would maintain the integrity of their currency have lost purchasing power, seriously impairing retirement prospects. (But Federal workers do have cost of living protection for their pensions). The inflation tax on money imposes special hardships on those whose incomes just cover the bare necessities. In an unplanned fashion the decade long inflation tax has transferred income and wealth from the saver to the borrower. Given the progressive nature of our tax system, inflation takes an increasingly larger bite of adjustments to income made simply to retain purchasing power. The incentive to save has diminished to where in recent years personal savings has declined to but five percent of disposable income.

While there is no shortage of causal explanations of our unprecedented peacetime inflation, few have been subjected to careful econometric testing.

Explanations that receive strong empirical support after careful scrutiny deserve our attention even if they do not follow traditional views about the economy. Eventually there may indeed be several mutually compatible key explanations that are supported by strong quantitative evidence. At the present time, however, hard empirical evidence about the central causes of inflation remains in short supply.

Based on my econometric study entitled Inflation and the Money Supply in the U.S., 1954-77 published last year by Lexington Press, I find that over the past 25 years changes in the rate of growth in monetary stimulus injected into the economy are, in a causal sense, a strong candidate as a core explanation of the growth of the general price level, i.e. inflation. The evidence from that study suggests inflation is a primarily a home grown product with all but about five percent of the increase in the general price level in the 1970s causally explained by the rate of monetary stimulus in the 1970s. In other words, for the past decade as a whole, less than one year's increase in prices originated from sources other than the rate of growth of monetary stimulus. To be sure a carefully designed model of this type does not always give accurate forecasts. For example, when we use the 1950s and the 1960s experience and project out into the 1970s, the forecasts for 1974 and 1975 are not completely satisfactory. However, even in those two years the monetary factor clearly dominates over all other factors combined. In recent years the projections based on the pre-1970 experience have been satisfactory. Since this carefully tested powerful relationship has remained stable over more than two and a half decades and ordinarily does provide good forecasts, it merits serious consideration in any program designed to restore price stability.

The principle Government policy used to promote output and employment in the 1970s has been stimulating aggregate demand through applying monetary stimulus at rates well in excess, on average, of our potential growth. Over the decade the M1 money supply has increased some 160 billion dollars, a gain of almost 100 percent. In contrast, the M1 money supply on average grew only 2½ percent yearly during the 1950s. a decade of reasonable price stability with average increases also of 2½ percent a year. However, while excessive monetary stimulus has yielded unprecedented peacetime inflation, it has not proved successful in maximizing economic growth and employment. Compared to the 1960s, the 1970s have had lower rates of real output, higher unemployment and a sharply lowered rate of investment in plant and equipment. Business investment proceeded at only one half the pace of the 1960s, boding ill for the productivity enhancement so essential for our future economic well being. At the very least a casual inspection of the 1970s suggests that excessive monetary stimulus has not brought outstanding results in achieving other national economic goals. But it has brought an unprecedented and an unacceptable rate of inflation. Since we have not received any extraordinary benefits from a decade long program of excessive monetary stimulus, there is a good reason to reduce it to a rate commensurate with reasonable price stability. That objective is in our national welfare.

A Program

To restore the integrity of our currency I suggest we give thoughtful consideration to a straight forward two phased program lasting between two and a half and three years.

First, we need to declare a national commitment that for the next two and a half to three years restoring reasonable price stability will be our number one economic priority (short of an unambiguous national emergency).

Second, once that priority is established, I recommend the following policy to realize the goal of price stability. The Federal Reserve, charged with regulating our money supply, should maintain an orderly, well advertised and monitored plan to reduce M1 money growth over a two and a half to three year period to the three percent rate of monetary stimulus consistent with reasonable price stability. For the Federal Reserve, stabilizing the rate of monetary stimulus injected into the economy under a phased reduction program would replace stabilizing interest rates.

The first part of the program simply acknowledges that any anti-inflation program has the best chances for success under the umbrella of a national commitment to price stability. A temporary reordering of our priorities is a sensible prerequisite to enhance the prospects of any frontal assault on inflation.

The second part of the program is a specific policy proposal that in my judgment deserves consideration once the umbrella of the national commitment to price stability is firmly established. That need not preclude adoption of other policies towards achieving price stability.

Under the best of circumstances with strong public support, credibility for the money growth reduction program and absence of sharp external shocks, then by late 1982, the M1 money supply would increase by only 40 billion dollars or about one half of what could be expected if the 6 - 7 percent rate of monetary stimulus in recent years continued. The expected inflation path would be as follows:

	<u>Planned M1 Money Growth</u>	<u>Expected Inflation(GNP Deflator)</u>
Late 1980	5%	7 - 8%
Late 1981	4	5 - 6
Late 1982	3	3 - 5

In considering any proposed program designed to restore reasonable price stability, it is also important to specify short term downside risks in terms of foregone employment and output. Unfortunately, I doubt that we have sufficient knowledge to quantify those risks with precision. It would be sensible to have standby programs so that any unexpected burden of adjustment does not fall unfairly on the disadvantaged. To minimize downside risks it is crucially important that we do in fact create a national commitment to price stability and then carry out an orderly, consistent and well advertised phased money growth program with careful attention to hitting the preannounced money growth targets. In that manner inflation expectations could be revised downward before the program is completed. If there are strong doubts about whether the program will be followed through, expectations will adjust slowly and the downside risks on employment and output will become pronounced. To an important degree the downside risks are a function of the perceived degree of our commitment to rearranging our priorities and following through with specific programs.

In a real sense our choice is to incur the short term downside risks or be forced eventually by circumstances to mount an all out frontal assault on inflation. There is ample historical precedent that well functioning economies cannot successfully contain double digit inflation over the long term. With our present priorities and monetary policy, we can expect inflation to be ratcheted upwards ever higher with each successive economic expansion and continued disruption in foreign exchange markets. Calls for moderating excessive monetary stimulus give way to short term pressures for yet additional stimulus. At the present time we do have the luxury of trying out alternative proposals. A phased money growth reduction is one such program. If we delay we will not have that luxury. It is clearly in our national interest to take the bull by the horns, temporarily change our national priorities, mount a sensible program towards reducing excessive monetary stimulus and recognize that to encourage maximum employment of our people and resources we need specifically tailored programs rather than the blockbuster approach of stimulating aggregate demand directly and hoping that all goes well. The damage from pursuing that policy of the 1970s is our challenge in the 1980s.

The Challenge

Excluding unexpected external events the challenges to the successful implementation of the phased money growth reduction program, are first, our resolve to follow through and maintain the national commitment to price stability, and second, sharply constricting Federal Reserve policy making in a non-discretionary mode for two and a half to three years. Owing to the

delayed impact between changes in money growth and inflation, about two and a half years, little success would be visible in the first year of the program. Inflation expectations carefully nurtured for over a decade cannot be quickly reversed in a matter of several months short of a sharp down turn in aggregate demand.

The litmus test of a phased money growth reduction program is surely our willingness to resist short term pressures to stimulate aggregate demand calling for higher rates of monetary stimulus. The past decade vividly illustrates what happens when we succumb to the temptation of answering short term needs and accommodating Federal budget deficits but ignoring longer run requirements. With a weakening economy facing record high interest rates and prospects for continued O.P.E.C. oil price hikes, those pressures are clearly visible. A recession would certainly encourage demands for yet additional monetary stimulus.

There is a clear danger that if we embark on any serious frontal assault on inflation and loose heart, it would prove far more difficult in the future to reverse inflation expectations. The alternative then would be a long drawn out money growth reduction program over 5 - 6 years in which expectations are finally changed only after the fact of several year's slower money growth. The odds are clearly against holding price stability as our number one priority for that long a period.

The second challenge is that the program requires a forceful change in the conduct of Federal Reserve policy making for a period of several years. Traditionally, Federal Reserve policy has been discretionary with simultaneous attention to varied economic objectives. In practice, financial market participants and others traditionally face considerable uncertainty about the future course of interest rates and the rate of monetary stimulus. The contrast would indeed be marked under a non-discretionary Federal Reserve policy. The rate of monetary stimulus would be known well in advance for several years in the future. Financial market detective work would largely focus on interest rates forecasts determined by market forces rather than Federal Reserve policy.

Maintaining a single focus monetary policy specifically geared to meet M1 money growth targets for several years, while within the professional capabilities of the Federal Reserve, would be the most dramatic reorientation of the Federal Reserve since the 1930s. Our recent experience with money growth targets has not been successful. Target bands are uncomfortably wide, various aggregates are concurrently targeted and reference dates are shifted forward. Targeting dates back to House Concurrent Resolution #133 in the spring of 1975. However, the rate of M1 money growth in the four years since the Resolution has been 6.6 percent, just about equal to the 6.1 percent growth rate in the four years prior to that Resolution. Moreover, these rates are above long term target figures set by the Federal Reserve itself.

While the refocus announced in the October 6th initiative is a useful step, it is just a beginning. Presently there is considerable uncertainty about the course of M1 money growth in 1980 and 1981. For example, it is not known how much additional money growth will be created between October 6th and one year later. To gain credibility a phased money growth reduction program needs narrow target ranges, e.g. $\pm \frac{1}{2}$ percent, a single fixed reference date, e.g. October 6th, 1979, and sole reference to a specific aggregate, e.g. M1. With these technical features in place, careful adherence to the pre-announced targets at quarterly intervals would create the credibility necessary to reverse inflation expectations.

Restoring the integrity of our currency would yield attractive benefits both at home and abroad. Americans would have new confidence in their government. A credible program for maintaining reasonable price stability would greatly reduce pressures on the dollar in the foreign exchange markets. And with a stable currency the incentive for purchasing power maintenance O.P.E.C. oil price hikes would be reduced. With a more predictable environment business planners would encourage productivity enhancing investment in the plant and equipment vital to our nation's economic well being and competitiveness abroad. Funds allocated to fulfill important social needs would not have their purchasing power seriously eroded. Similarly, private pension values would be protected. Embarking upon the program that I have outlined is well within our grasp; it would clearly demonstrate the vitality of the world's leading economy.

To be sure there are risks in any frontal assault on inflation; our knowledge is not as broad as would be desired. But there are very substantial risks of sitting still as inflation winds ever higher to utterly unacceptable rates. There is never a good or convenient time to mount a phased reduction in the rate of monetary stimulus. Ultimately we will be forced by circumstances to restore price stability. But the sooner we embark on this program the sooner the integrity of our currency will be restored, our economic well being will be enhanced and the sooner we will be able to devote important new energies to other national goals.

Chairman MITCHELL. Thank you, Dr. Berman.
Dr. Hamburger.

STATEMENT OF DR. MICHAEL J. HAMBURGER, VISITING PROFESSOR OF ECONOMICS, NEW YORK UNIVERSITY

Dr. HAMBURGER. Thank you, Mr. Chairman.

It is a pleasure to be here today and to contribute to your committee's important discussions regarding the goals and conduct of monetary policy.

My statement is very short; and if you will bear with me, I will read most of it.

I want to begin by indicating my very strong support for the decision taken by the Federal Reserve on October 6 to slow the growth of the money stock and the complimentary decision to adopt a new means of controlling money.

The latter action represents a fundamental change in the Federal Reserve's day-to-day operating techniques. It involves a shift in emphasis from containing short-term fluctuations in the Federal funds rate to controlling the supply of bank reserves.

There is every reason to believe that the new procedures should substantially improve the Federal Reserve's ability to achieve its own targets for money and credit.

Indeed, as Chairman Volcker has testified, the earlier procedures may have actually contributed to the recent excessive growth in the monetary and credit aggregates, and the inflationary and speculative psychology that it helped to generate.

I share this view and will have more to say about the new tactics later on. Before doing so, though, let me address some of the issues of monetary strategy raised in Chairmen Mitchell and Neal's letter of invitation.

Like Mr. Volcker, I also believe that it is essential for the United States to embark on a credible, long-lasting program that gradually, but steadily, reduces monetary growth to a noninflationary level.

Efforts to slow monetary growth in the face of strong credit demands and inflationary pressures are likely to result in a temporary rise in interest rates, as occurred in the days and weeks immediately following the Federal Reserve's actions on October 6.

But as more recent developments indicate, such increases need not persist. Moreover, practically all observers are agreed that the only means of attaining permanently lower interest rates is by lowering inflation.

ⁱ Controlling or reducing the rate of inflation at home is also the only method we know of maintaining the value of a currency in the foreign exchange markets.

Time and again history has shown that those countries with the lowest inflation rates are also the ones with the strongest currencies.

Thus, there is no basic inconsistency between a monetary policy strategy that concentrates on announcing and remaining on or very near a longrun disinflationary money growth path and a strategy that focuses on maintaining the international value of the dollar.

The relevant question is: Are there times or circumstances when it would be useful to deviate temporarily from such a path in order to

improve the chances of achieving either domestic or international objectives?

I wish very much that I could respond affirmatively to this question.

Clearly, there should be circumstances when informed judgment can improve upon a predetermined money growth path. The problem is that almost all past efforts to "fine tune" monetary policy have had undesirable longer term consequences.

In early 1971 money growth was accelerated sharply to help lift the economy out of the 1969-70 recession. This action did stimulate real output. However, it also contributed to the rapid deterioration of the U.S. balance of payments position and was soon followed by a breakdown of the Bretton Woods agreements and the first of a long and costly series of dollar crises.

More recently, the rate of monetary growth was boosted in late 1976 in an attempt to deal with an apparent pause in the ongoing economic expansion. This acceleration turned out not to be temporary at all and, in retrospect, set the stage for our present dilemma.

Other examples could be cited where departures from a monetary growth target to temporarily stimulate or restrict real economic activity had detrimental long-term consequences. Instead, let us consider another possible rationale for such departures; that is to alleviate financial market disturbances. Here the recent historical record is clear. The actual deviations that have been needed to solve such problems have been relatively minor.

The failure of the Penn Central Transportation Co. in June 1970 is a useful case in point. Initially, widespread fears of a general liquidity crisis were generated as major business corporations were unable to roll over their maturing commercial paper and scrambled for scarce funds in other markets.

The Federal Reserve System acted quickly and efficiently to dispel the fears and restore stability by early July. During the period, additional reserves were provided to the banking system through both open market operations and the discount window.

However, in the end, the growth of the narrow money stock remained essentially unchanged from what it had been in the months immediately preceding the disturbance.

The Federal Reserve's handling of the insolvency of the Franklin National Bank in 1974 provides another example of the authorities' ability to discharge their lender of last resort responsibilities without seriously interfering with monetary control.

Between May 9 and October 8, 1974, the day that Franklin National was declared insolvent by the Comptroller of the Currency, its indebtedness to the Federal Reserve Bank of New York, rose from \$125 million to more than \$1.7 billion, a large amount by any standard.

Despite this increase in borrowed reserves, the Federal Reserve was able to pursue its objective of slowing the growth in the monetary and credit aggregates during 1974.

Currently, there are some who suggest still a different reason for deviating from a gradual but steady decline in the growth of money. Their proposed strategy places top priority on halting the decline in the value of the dollar on the foreign exchange markets, and would do so by keeping money "tight" at home and resisting speculative attacks against the dollar abroad.

Specifically, the Federal funds rate would be increased substantially above its present level, and the Federal Reserve and the Treasury would stand ready to intervene in the exchange markets to combat any excessive speculation against the dollar even in the face of high interest rates.

In my judgment, such a policy would be misguided. As with past efforts to fine-tune money growth, it is likely to prove disruptive for both the domestic economy and international financial markets.

To the extent it involved a sharp deceleration in monetary growth, it could contribute to aggravating a recession. Not only would a more serious recession be undesirable in its own right, but the anticipated policy response could have destabilizing effects on the foreign exchange markets and interfere with the effort to reduce the long-term rate of inflation.

An attempt to vigorously fight the recession through increases in monetary growth, or merely the expectation of such increases, could quickly rekindle speculative pressures against the dollar.

Perhaps even more damaging are the effects such a policy could have at home. It would make it difficult for economic participants to determine the authorities' longrun policy intentions.

Hence, it would contribute little to moderating inflationary expectations or reducing the very high level of uncertainty and instability that pervades the economy. Thus, inflation could reaccelerate quickly.

Moreover, in such an atmosphere, economic participants would be reluctant to make long-term commitments. In particular, businesses are likely to continue to hold off making the long-term investments in plant and equipment that seem necessary to reverse the recent declining trend in U.S. productivity.

Lest this scenario be viewed as unduly pessimistic, let me call attention to the similarity between it and the disappointing behavior of the U.S. economy since the end of the last recession.

I return, therefore, to my previously stated view, namely that the Federal Reserve should use its new control procedures to achieve sustained, preannounced targets for money growth that can gradually bring the average rate of inflation to zero in the next 4 to 5 years.

At the outset, any anti-inflationary effort will have a temporary negative impact on output and employment. But these effects can be minimized if the public's inflationary expectations can be reduced decisively.

For this reason, I believe that it would be an important step forward for the monetary authorities to publicly commit themselves to a credible set of monetary growth targets for the next several years.

Such a bold departure from past behavior would undoubtedly incur some risks. One can list a host of possible developments that might alter the appropriate monetary growth path.

However, it seems to me that the U.S. economy is at or very close to the point where we can no longer avoid taking some risks to end the steady upward climb in inflation.

Alternative monetary policy strategies have been given a fair trial and have not proven particularly successful. In contrast, those foreign countries that have set and generally achieved monetary growth targets over a number of years have been able to stabilize, and in some instances reduce, their long-term rate of inflation.

Thus, I find myself in considerable sympathy with many of the provisions of the bill recently introduced by Chairman Neal, H.R. 5476.

Let us now turn briefly from questions of monetary strategy to those relating to the Federal Reserve's new operating tactics.

As indicated earlier, I believe that the shift in emphasis from short-run interest rate stabilization to reserve control is a major advance. It is not a panacea, but it should substantially increase the Federal Reserve's ability to achieve monetary growth targets.

To further this end and, perhaps more importantly, to ease the financial markets' adjustment to the new era, I strongly recommend a number of additional changes in procedures.

First, the Federal Reserve needs to use all of its available resources to fully understand the intricacies and details of the changes that have already been implemented.

Once this is done, the authorities should make an effort to provide the markets with short- and immediate-term projections of the reserves they intend to supply.

Initially such projections will be quite rough. Nevertheless, they should help market participants plan their activities. And this, in turn, should help to moderate shortrun interest rate fluctuations.

A second change that would contribute to the success of the new procedures and also help to eliminate unnecessary interest rate fluctuations is a shift from lagged to contemporaneous reserve accounting.

Under the present lagged reserve accounting system, a bank's required reserves depend on its deposits 2 weeks earlier. A shift to contemporaneous reserve accounting would make the bank's requirements depend on the current level of deposits.

Such a change could make a slight improvement in the precision of shortrun monetary control. More importantly though, it should reduce the effects of unexpected changes in banks' reserve positions and thereby help to moderate shortrun interest rate movements.

Finally, let me say that I agree wholeheartedly with Professor Brunner's comments that the Federal Reserve's focus—or its announced focus on nonborrowed reserves—is a less efficient way of gaining control of the money stock.

A more efficient procedure would be to focus on the monetary base.

Thank you very much.

[Dr. Hamburger's prepared statement follows:]

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Ninety-Sixth Congress

December 4, 1979

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The views expressed here are mine alone, and are not necessarily
those of the Federal Reserve Bank of New York nor the Federal Re-
serve System.

It is my pleasure to be here and to contribute to your Committees' important discussions regarding the goals and conduct of monetary policy. Let me begin by indicating my strong support for the decision taken by the Federal Reserve on October 6 to slow the growth of the money stock and the complimentary decision to adopt a new means of controlling money. The latter action represents a fundamental change in the Federal Reserve's day-to-day operating techniques. It involves a shift in emphasis from containing short-term fluctuations in the Federal funds rate to controlling the supply of bank reserves.

There is every reason to believe that the new procedures should substantially improve the Federal Reserve's ability to achieve its own targets for money and credit. Indeed, as Chairman Volcker has testified the earlier procedures may have actually contributed to the recent excessive growth in the monetary and credit aggregates and the inflationary and speculative psychology that they helped to generate. I share this view and will have more to say about the new tactics later on. Before doing so, though, let me address some of the issues of monetary strategy raised in Chairmen Mitchell and Neal's letter of invitation.

I also agree with Mr. Volcker that it is essential for the United States to embark on a credible long-lasting program that gradually, but steadily reduces monetary growth to a noninflationary level. Efforts to slow monetary growth in the face of strong credit demands and inflationary pressures are likely to result in a temporary rise in interest rates, as occurred in the days and weeks immediately following the Federal Reserve's actions

on October 6. But as more recent developments indicate such increases need not persist. Moreover, practically all observers are agreed that the only means of attaining permanently lower interest rates is by lowering inflation.

Controlling or reducing the rate of inflation at home is also the only reliable long-term method we know of maintaining the value of a currency in the foreign exchange markets. Time and again history has shown that those countries with the lowest inflation rates are also the ones with the strongest currencies. Thus, there is no basic inconsistency between a monetary policy strategy that concentrates on announcing and remaining on or very near a long-run disinflationary money growth path and a strategy that focuses on maintaining the international value of the dollar.

The relevant question is, are there times or circumstances when it would be useful to deviate temporarily from such a path in order to improve the chances of achieving either domestic or international objectives? I wish that I could respond affirmatively to this question. Clearly there should be circumstances when informed judgment can improve upon a predetermined monetary growth path. The problem is, that almost all past efforts to "fine tune" monetary policy have had undesirable longer-term consequences.

In early 1971 money growth was accelerated sharply to help lift the economy out of the 1969-70 recession. This action did stimulate real output. However, it also contributed to the rapid deterioration of the U.S. balance of payments position and was soon followed by a breakdown of the Bretton Woods agreements and the first of a long and costly series of dollar crises. More

recently, the rate of monetary growth was boosted in late 1976 in an attempt to deal with an apparent pause in the ongoing economic expansion. This acceleration turned out not to be temporary at all, and in retrospect set the stage for our present dilemma.

Other examples could be cited where departures from a monetary growth target to temporarily stimulate or restrict real economic activity had detrimental long-term consequences. Instead, let us consider another possible rationale for such departures, that is, to alleviate financial market disturbances. Here the recent historical record is clear; the actual deviations that have been needed to solve such problems have been relatively minor. The failure of the Penn Central transportation Company in June 1970 is a useful case in point. Initially, widespread fears of a general liquidity crisis were generated as major business corporations were unable to roll over their maturing commercial paper and scrambled for scarce funds in other markets. The Federal Reserve System acted quickly and efficiently to dispel the fears and restore stability by early July. During the period additional reserves were provided to the banking system through open market operations and the discount window. However, in the end the growth of the narrow money stock remained essentially unchanged from what it had been in the months immediately preceding the disturbance.

The Federal Reserve's handling of the insolvency of the Franklin National Bank in 1974 provides another example of the authorities ability to discharge their lender of last resort responsibilities without seriously interfering with monetary control. Between May 9 and October 8, 1974, the day that Franklin National was declared insolvent by the Comptroller of the Currency, its indebtedness to the Federal Reserve Bank of New York

rose from \$125 million to more than \$1.7 billion, a large amount by any standard. Despite this increase in borrowed reserves the Federal Reserve was able to pursue its objective of slowing the growth in the monetary and credit aggregates during 1974.

Currently, there are some who suggest still a different reason for deviating from a gradual but steady decline in the growth of money. Their proposed strategy places top priority on halting the decline in the value of the dollar on the foreign exchange markets and would do so by keeping money "tight" at home and resisting speculative attacks against the dollar abroad. Specifically, the Federal funds rate would be increased substantially above its present level and the Federal Reserve and the Treasury would stand ready to intervene in the exchange markets to combat any excessive speculation against the dollar even in the face of high interest rates.

In my judgement such a policy would be misguided. As with past efforts to fine tune money growth it is likely to prove disruptive for both the domestic economy and international financial markets. To the extent it involved a sharp deceleration in monetary growth it could contribute to aggravating a recession. Not only would a more serious recession be undesirable in its own right, but the anticipated policy response could have destabilizing effects on the foreign exchange markets and interfere with the effort to reduce the long-term rate of inflation. An attempt to vigorously fight the recession through increases in monetary growth, or merely the expectation of such increases, could quickly rekindle speculative pressures against the dollar.

Perhaps even more damaging are the effects such a policy could have at home. It would make it difficult for economic participants to determine the authorities' long-run policy intentions. Hence, it would contribute little to moderating inflationary expectations or reducing the present level of uncertainty and instability that pervades the economy. Thus, inflation could re-accelerate quickly. Moreover, in such an atmosphere economic participants would be reluctant to make long-term commitments. In particular, businesses are likely to continue to hold off making the long-term investments in plant and equipment that seem necessary to reverse the recent declining trend in U.S. productivity. Lest this scenario be viewed as unduly pessimistic let me call attention to the similarity between it and the disappointing behavior of the U.S. economy since the end of the last recession.

I return therefore, to my previously stated view, namely, that the Federal Reserve should use its new control procedures to achieve sustained pre-announced targets for money growth that can gradually bring the average rate of inflation to zero in the next four to five years. At the outset any anti-inflationary effort will have a temporary negative impact on output and employment. But these effects can be minimized if the public's inflationary expectations can be reduced decisively. For this reason, I believe that it would be an important step forward for the monetary authorities to publicly commit themselves to a credible set of monetary growth targets for the next several years.

Such a bold departure from past behavior would undoubtedly incur some risks. One can list a host of possible developments that might alter the appropriate monetary growth path. However, it seems to me that the U.S. economy is at or very close to the point where we can no longer avoid taking some risks to end the steady upward climb in inflation. Alternative monetary policy strategies have been given a fair trial and have not proven particularly successful. In contrast, those foreign countries that have set and generally achieved monetary growth targets over a number of years have been able to stabilize and in some instances reduce their long-term rate of inflation. Thus, I find myself in considerable sympathy with many of the provisions of the bill recently introduced by Chairman Neal, H.R. 5476.

Let us now turn briefly from questions of monetary strategy to those relating to the Federal Reserve's new operating tactics. As indicated earlier, I believe that the shift in emphasis from short-run interest rate stabilization to reserve control is a major advance. It is not a panacea, but it provides the technical basis for increasing the Federal Reserve's ability to achieve monetary growth targets. To further this end and, perhaps more importantly, to ease the financial markets' adjustment to the new era, I strongly recommend a number of additional changes in procedures.

First, the Federal Reserve needs to use all of its available resources to fully understand the intricacies and details of the changes that have been implemented. Once this is done, the authorities should make an effort to provide the markets with short- and intermediate-term projections of the reserves they intend to supply. Initially such projections will be quite rough.

Nevertheless, they should help market anticipants plan their activities and this, in turn, should moderate short-run interest rate movements.

A second change that would contribute to the success of the new procedures and also help to eliminate unnecessary interest rate fluctuations is a shift from lagged to contemporaneous reserve accounting. Under the present lagged reserve accounting system a bank's required reserves depend on its deposits two weeks earlier. A shift to contemporaneous reserve accounting would make the bank's requirements depend on the current level of deposits. Such a change could make a slight improvement in the precision of short-run monetary control. More importantly, though, it would also reduce the effects of unexpected changes in banks' reserve positions and thereby help to narrow short-run variations in interest rates.

Chairman MITCHELL. Thank you, Dr. Hamburger, and all three of you gentlemen.

I must confess it is rare that this committee has heard such a high degree of consensus in testimony. It is a very rare occasion for us.

I will reserve my questions until the other members have had an opportunity to put their questions to you.

Chairman Neal.

Chairman NEAL. Professor Brunner, you said, during the course of your remarks, that a decisive gesture is needed to insure that the public financial institutions in the international community understand that we are serious about bringing down the rate of inflation in this country.

What would you see as that decisive gesture?

Professor BRUNNER. Mr. Chairman, I was delighted to hear Dr. Berman essentially emphasizing the same aspects, and also Dr. Hamburger.

If I would be permitted for a moment to offer a comment in somewhat a sardonic mood: I have been playing with the idea that one should impose a special tax on all of the Governors of the Board, and all of the presidents of the Federal Reserve banks, and the top officials. This tax provides for every percentage point of inflation in a particular year a 10-percent reduction in the previously mentioned officials' net income.

Chairman NEAL. I would have to say I don't find that as amusing as some, because that same idea has been suggested for Members of Congress.

Professor BRUNNER. Well, I am in good company then. The problem is, however, quite serious. The event of October 6 reminds us unavoidably of October 24 and November 1, last year. And we are also reminded of the subsequent events. The Federal Reserve authorities acted for 5 months.

The growth rate of the monetary base declined substantially and followed the requirements of an anti-inflationary policy. But then we experienced once more the old story—we observed a reversal to even more inflationary levels of monetary expansion than ever before. The result appeared during the summer on the international exchange markets.

So, in one way or the other, we should create a pattern, with all of the pomp and circumstance required, assuring us that the Fed really means business. This may involve pressures from Congress, pressures from the public, and public and specific commitments on the part of the Fed. I am not sure about the best procedure to create credibility and reliability. But certainly one way which would substantially help in my judgment, would be the congressional committees' determination to supervise the Federal Reserve's policies, assess the accountability of the Fed, take a hard line to force the Fed to acknowledge a public accountability, and to really deliver.

Chairman NEAL. Let me interrupt for a moment, if I can.

I have spent more time on this subject than any other single subject since I came to Congress. I think I was elected to try to do something about the problem of inflation.

I was the chairman of this Domestic Monetary Policy Subcommittee several years ago. I am now chairman of the Subcommittee on International Trade. I understand the impact that it has on the value of the dollar and our trade situation.

And there is no subject that interests me more that I want to do something about. I have become convinced that the only way that we're going to get inflation under control in this country is to gradually bring down the rate of growth in the money supply until it reaches something that approximates the rate of growth of the gross national product, and keep it there.

I have introduced a bill that would bring that precise result about. And in that bill—and I believe we sent copies of the draft bill to all of you—we provide an escape hatch for exceptional circumstances.

I am inclined to agree with Dr. Hamburger that, if used at all, that should only be used in the most severe circumstances.

And, in fact, we suggest that before that could be used that there be a vote of a—majority of the Board of Governors of the Federal Open Market Committee.

My specific question—I am convinced that the action taken by the Fed on October 6 will begin to move us to the point where, if taken seriously, we will see reductions in interest rates relatively soon and that we will see a steady decline in those interest rates; but I am convinced, as the three of you appear to be, that no one really takes that decision very seriously.

We have seen decisions taken like that in the past and not followed through on, and so on. So even though it is with a great deal of trepidation that I would want the Congress to impose on the Federal Reserve System, I do make this one proposal very, very seriously: That we, in fact, in the Congress mandate that the Fed bring down the rate of growth in the M_1 we use by about a percent a year until it reaches about 3 percent and then leave it there.

We see that gradual approach as the sensible approach to the radical ups and downs we have seen in recent years. And I personally have come to conclude that nothing else will get the job done.

Even the strongest statement by the Chairman of the Federal Reserve System—and we have urged him to make that statement—will still not be taken seriously.

As I remember, under legislation passed by this Congress, a new President will have the option, after his first year in office, of naming a new Chairman. If this country should elect a President that does not appreciate the role of monetary—excuse me, the House has passed a bill that would give the newly elected President the opportunity to name a new Chairman of the Federal Reserve Board of Governors.

And if we should elect a President in this country who does not understand the importance of the role of monetary policy, and should choose to flood the economy again with money and devalue our currency again, that would be entirely possible unless there is some strong mandate, it seems to me, from the Congress.

I would like to have all of your comments on that specific proposal, if I could.

Professor BRUNNER. May I make a suggestion?

Chairman NEAL. Yes.

Professor BRUNNER. Last March, I think it was, when the House Committee on Banking, Finance and Urban Affairs—I seem to remember it was a unanimous recommendation—

Chairman NEAL. And we used the exact formula in that unanimous recommendation in drafting our bill.

Professor BRUNNER. Now, what I would like to suggest is that Chairman Volcker go to the public and say, "We, at the Fed, accept that recommendation," that he publicly announce that, and that this will be the policy of the Fed over the next 5 years, and that he announces now what the path of monetary growth should be over the next 4 or 5 years, and that it will be adhered to in the strongest terms.

Chairman NEAL. I would agree with you that that is important. But is that enough?

Professor BRUNNER. Well, what we need to find is a procedure which will assure us a better performance.

Chairman NEAL. Well, how do we make sure that it will be done?

Professor BRUNNER. What are the instruments available to us in this respect?

Chairman NEAL. In my opinion, should it be done? If the Congress would pass the bill that I recommended, it would say that it would be the policy of the Federal Reserve to bring down the rate of growth by 1 percent a year for the next—whatever it takes—3, or 4, or 5 years, until it reaches 3 percent, and then leave it there.

Would you support that?

Professor BRUNNER. That is exactly the point. I fully agree with you. I would support this policy and this proposal which you have mentioned.

Chairman NEAL. You know what I see happening over and over again is that we go through these cycles. And who is hurt? The young people trying to buy a home, the savings and loan industry, which suffers first; the homebuilding industry; the furniture business, of which I have a lot in my district; and then the industries which depend upon that, the homebuilding industry, furniture, carpets, textiles, and so on.

It is absurd. In my own opinion, we know the answer—we know how to solve the problem. And I simply don't think it's going to be solved unless we mandate that it be solved by the Congress.

Dr. BERMAN. I would like to note that we in the financial markets are perennially cast in the role of playing monetary policy detective. In the last year alone we were surprised, to put it mildly, by two major policy initiatives, first on November 1, 1978, and then on last October 6. Moreover, the growth of the money supply was most unusual, with the economy being whipsawed by 6 months of no growth followed by an unprecedented 6 months of 10 percent growth.

On the basis of the past year's unsettling experiences, no public statement, no matter how well crafted, by the Federal Reserve or the Federal Reserve Chairman, would likely convince financial market participants and others that they have any degree of assurance about the rate of money growth over the foreseeable future. To make that point clear, we simply do not know at this time how much the M_1 money supply will increase 1 year from October 6, 1979. We do know that the stated longrun targets are between $1\frac{1}{2}$ – $4\frac{1}{2}$ percent, well below actual growth over the past decade. Yet several weeks ago Chairman Volcker made a statement to the effect that because of expected OPEC price hikes, additional monetary stimulus will be required. Thus the announced $4\frac{1}{2}$ percent upper target range is not terribly informative.

As long as we remain in constant uncertainty about the rate of monetary stimulus, financial markets will exhibit similar uncertainty.

For 50 years, uncertainty has been an important facet of discretionary Federal Reserve decisionmaking. What is required to control the monetary aggregates is nothing less than a dramatic change in the way that our central bank functions. To successfully implement a phased reduction in M_1 money growth requires a single focused Federal Reserve able to resist the inevitable shortrun pressures for additional stimulus.

We should appreciate the difficulty of the task faced by the Federal Reserve if required to implement a phased M_1 growth reduction program over 2½ to 3 years. A 50-year tradition of discretionary policymaking would need be set aside for several years to allow pursuit of a well defined, narrow policy focusing on money growth rates. It would be an extraordinary change for the Federal Reserve to announce clearly, in detail, what the targeted rates of money growth will be over the next several years.

Now there are some important shopkeeping details that will help instill confidence and credibility in a phased money growth reduction program.

First, we need a specific reference date rather than the confusing practice of shifting reference dates forward. October 6 would be a suitable date.

Second, one reference monetary aggregate should be targeted rather than four of five. Multitargeting sows confusion. Now, I am well aware that there are differing opinions about what is or should be the proper aggregate for targeting. I suggest we stick with M_1 . My studies of the monetarist inflation thesis find that M_1 clear and away has the most powerful causal relationship with prices among the various published aggregates. Since the purpose of this proposed program is restore reasonable price stability, it makes good sense to target that monetary aggregate that has the most powerful causal relationship with the price level. Empirically and theoretically that argues for M_1 . To be sure it is not perfect but it is the best we have.

Third, it would be helpful to maintain a stabilized rate of money growth while the phased reduction program is carried out. To gain confidence the program requires that quarterly rates of money growth should be constrained within a narrow range, say plus or minus one-half percent or a range of about 1 percent. Otherwise, if the de facto quarterly money growth rates bob up and down, true believers will be long in the making. This is particularly important in view of last year's money growth whipsaw of 6 months flat growth followed by 6 months of unprecedented 10 percent growth. Additionally de facto growth has long been above posted targets. There is a credibility problem. Hewing the line is a necessary demand of the phased reduction program—a program designed to reduce both inflation and inflation expectations.

These suggestions would greatly restrict the discretionary freedom that has characterized central banking in the United States. To require any institution to adhere for several years to a straight and narrow path is indeed a challenge. But the facts are not in dispute. Prices have doubled in the last decade and the money supply nearly so. Over the last decade the money supply has grown at 6 to 7 percent annually, far in excess of the economy's potential real rate of growth. Over the last 3 years money growth has averaged roughly 7 percent. If we can put together a forceful national commitment to restoring the integrity

of our currency then it is certainly appropriate to require that the Federal Reserve change its ways and follow a straight and narrow policy for several years in fulfillment of that commitment. Once shielded from shortrun pressures there is no technical reason why a phased money growth reduction program cannot be successfully implanted.

Finally, there is never a good time and I suggest that there will never be a convenient time to begin a phased money growth reduction program. But the past decade argues forcefully that such a program be begun. We need resolve to do something other than stop-start. If done openly and purposefully such a program would not have downside risks on income and employment. It is in our national interest to begin such a program in earnest and as soon as possible in order that we may rightfully restore the integrity of our currency.

Dr. HAMBURGER. As I indicated in my opening statement, I fully agree with the spirit of your proposed legislation, Chairman Neal. I also indicated that in the past the reasons given for deviating from the monetary growth path turned out not to carry much weight.

Nevertheless, we probably want to leave some possibility for some escape, as I think you do. So I fully agree with the general spirit of that bill.

I also would find it hard to improve on Dr. Berman's elaboration and indication of why it is so important to be very specific and have everything set out very well in advance.

I just wanted to add that I think that the costs of a high and varying rate of inflation are much wider than Dr. Berman suggested. They are not restricted to the financial industry. Rather, they affect us all. It is well known or it seems to be reasonably well documented that productivity in the United States began to slow down sharply in the late 1960's, just the time when we entered this new era of a high and varying rate of inflation. And I think the connection is not surprising.

I am not aware of any detailed empirical evidence to show that the cause is one to one. But I think the relationship seems quite reasonable. In a situation of great instability, as we have been experiencing, I think businessmen would find it very hard to make the long-term commitments in plants and equipment to provide for increased productivity.

Chairman NEAL. Thank you. I have exceeded the time allotted me. But the chairman has agreed to let me ask one further question and just get a simple yes or no answer from each of the panelists.

In my opinion, the single most important thing that we can do in this country to solve the problem of inflation, stabilize the value of the dollar, increase employment, bring down interest rates, is to adopt a monetary policy as I described earlier, that is, to bring the rate of growth down about 1 percent a year until it reaches the rate of growth in our GNP and leave it there. I would just like a yes or no answer from each of you whether you agree or disagree with that statement.

Professor BRUNNER. Yes, indeed.

Dr. BERMAN. I agree.

Dr. HAMBURGER. Yes.

Chairman NEAL. Thank you very much.

Chairman MITCHELL. I think it might be prudent if from this point on we operated under the 5-minute rule in order to enable all the members of the subcommittees to raise questions.

Chairman NEAL. I apologize, Mr. Chairman.

Chairman MITCHELL. Well, it was clear that you had asked special concern be given, and I have no problem with that.

Mr. Campbell?

Mr. CAMPBELL. Thank you, Mr. Chairman.

I was very interested in the last statement Dr. Hamburger made and he had referenced earlier, and that was the decline in the growth rate of our productivity in this Nation and how it impacts; and also, the correlation that you seem to draw between that decline and the growth in the monetary growth in this Nation.

Let me ask you this, because you have raised the question and because we are strictly speaking of the role of the Fed and controlling the growth of M_1 or actually having a decline in the growth of M_1 ; and because economies go through periods of expansion and contraction, and because we constantly seek this balance between growth and income redistribution, which all impact on what we do.

Is it possible—and I would like your comment on it—that we have reached a point in our programs in income redistribution where it is exceedingly difficult, if not impossible, to really control the growth of money in this Nation? Is it possible that we have automatically triggered in so many things into our legislative programs that the Fed would be completely—it would be impossible for them to set an absolute target and hold to it, because of the short-term pressures that you have mentioned earlier? Are those short-term pressures built into legislation now? Would the countercyclical forces come into being and completely undermine everything that we have done?

And I think, in asking this broad-based question, let me ask you this: Is it not probable that in order to get a handle on inflation, that we not only have to follow the program set down by the Fed for some sort of goal, applaud the decision of October 6, and at the same time recognize that our Federal spending programs and our tax policies in this Nation have also been the other two things that have to be addressed at the same time in order to truly get a handle on this?

I know that is very broad based. But in a 5-minute period, Mr. Chairman, that is the only way I could get them all wrapped up into one. I would just throw them out there for comment as a whole. I would start with Professor Brunner.

Professor BRUNNER. We face at this stage several problems. The inflation problem, initiated by the Federal Reserve authorities in 1965, stayed with us over 14 years. The 1980's threaten us moreover with economic stagnation.

Our slide into economic stagnation results mostly from the cumulative effect of the many disincentives introduced into our system by past economic policies. Such negative incentives do affect, indeed, our welfare in terms of lower real growth, lower real income per capita, and so on. These aspects are very important in terms of our welfare, and I would certainly hope that they would be removed in the future by suitable changes in prevailing policies.

We need to understand however that their contribution, that is, the direct contribution of these welfare-obstructing policies, to the

inflation problem is comparatively small. The basic inflation rate which we experience currently, which is determined by the tack on which our monetary policy has been moving over the recent past, measures 9 or 10 percent per annum. The decline in real growth contributed at the very most 1½ percentage points to the basic inflation rate. The low significance with respect to the rate of inflation is quite consistent with the substantial cumulative effect on our welfare. The central point and the major aspect of our inflation problem is due to our monetary policy. So we have to bring this policy or—nonpolicy—under control. I am happy to note that I can fully agree in these matters with Dr. Berman and Dr. Hamburger.

We should also note in this context that a stable and predictable framework of monetary policy lowers the range of uncertainty confronting the private sector. It may thus encourage somewhat the development of our productive resources. But the crucial measures addressing this purpose are beyond monetary policy.

Dr. BERMAN. I would certainly like to agree with Professor Brunner that to restore price stability it is essential that the Federal Reserve change its policy of injecting excessive monetary stimulus economy. That doesn't mean that we can't move any other contributory policies but they will not ultimately prove effective is restoring price stability unless the Federal Reserve changes its policy of injecting excessive monetary stimulus into the economy.

Our prospects for resuming vigorous economic expansion in the 1980's at the 5-percent real growth rate characteristic of expansions since the 1950's are not encouraging. The legacy from the 1970's is high and continuing inflation, record interest rates, and a rate of capital investment in plant and equipment only one-half of what it was in the 1960's. With this discouraging background and considerable uncertainty about whether our Government will ever mount and follow through with an effective program to restore reasonable price stability, it is understandable why capital spending plans are restrained.

We will often be unable to simultaneously achieve our goals of maximizing growth and employment, maintaining the purchasing power of our currency and a healthy dollar abroad. But we have seen the consequences of not paying careful attention to the integrity of our currency. I therefore recommend that we give that goal No. 1 priority for several years and once that umbrella is free to stand against the downpour of short-term pressures, forcefully implement a phased reduction of money growth. Otherwise our economy will needlessly incur substantial costs throughout the 1980's, grappling with inflation in a stop-start, hit-and-miss fashion.

Mr. CAMPBELL. I totally concur.

My time is limited. I am sorry I can't follow that up. But if the chairman will indulge me for a moment, I totally concur with your erecting an umbrella.

But I think the thing I was trying to drive toward was, if we set this policy with the Fed, if we do it, will the political pressures as a whole be so great because of the system we have set up that we cannot hold to it?

Dr. BERMAN. Everyone in this great Nation is aware that inflation is our No. 1 economic problem. There is a broad consensus that we need to have a fixed focus on restoring price stability. I suggest that, yes; we can do it; we can resist those shortrun pressures.

Mr. CAMPBELL. That fixed focus would also probably have to take into consideration the spending policy of the Federal Government itself; is that correct or not?

Dr. BERMAN. I am sorry, I didn't quite follow you.

Mr. CAMPBELL. If we had a focus on the Fed, to not ruin the effectiveness of it as a whole, would it not also have to take into consideration the spending policy of the Federal Government during that particular period of time, as a part of that whole umbrella?

Dr. BERMAN. Yes.

Dr. HAMBURGER. Let me address myself specifically to your followup question, Mr. Campbell. Political pressure clearly makes it more difficult for the Fed to stick to some noninflationary growth path. But recent past history says that that pressure does not have to be completely overpowering. We had a recession in 1973-74. The recession ended. The trough date for the economy is the first quarter of 1975, the end of the last recession.

The economy then began to pick up. Monetary growth stayed very much on target. The Federal Reserve's behavior was very responsible throughout 1975, throughout early 1976, when the economy was at its depths, when the Federal deficit was largest.

When did monetary growth pick up? In the middle or the latter part of the present expansion. It was only in the last quarter of 1976. That is when monetary growth which previously had been about 5½ percent, went up to 8 percent, and it has remained 8 percent.

Talk about political pressure. What political pressure was there after the Presidential election when Congress was out of session?

Mr. CAMPBELL. Then why did they do it?

Dr. HAMBURGER. The reason that they did it was because of the deep concern—I argued at the time and still believe—the misguided concern that the economy needed extra stimulus.

Mr. CAMPBELL. They overstimulated from a political standpoint, then, is what you're telling me?

Dr. HAMBURGER. From a political standpoint? I don't understand. They overstimulated because everyone was concerned that the recovery that had been going on for 18 months or so looked like it was beginning to fizzle out. Had we stayed with the monetary growth target, the expansion would have been slower, the unemployment rate might have come down somewhat less, at a lesser speed. I think it would have stayed to about where we are now or maybe a little higher. But I believe that the inflation rate would have been a lot lower, and we would not be beginning on a policy to produce a new recession.

Chairman MITCHELL. It is difficult for the Chair not to raise his questions at this time. But let me just comment that, from your response to Mr. Campbell's inquiry, I infer that you believe that it was monetary policy which was more inflationary than the fiscal spending and tax cuts that we did in the Congress when we hit the trough of the 1974-75 recession. Is that a correct inference?

Dr. HAMBURGER. The monetary policy was not inflationary throughout the latter part of 1975 and the early part of 1976. Monetary growth—M₁ growth—during that period was 5½ percent, and that was reasonably appropriate.

For the best of intentions, the growth of the money stock was pushed up to 8 percent at the end of 1976. But I think—and most people, I think, agree now—that looking back, that that was wrong.

Chairman MITCHELL. I am in agreement with that, too. But the point I was trying to make was simply that there is a great deal of discussion about fiscal spending to stimulate, and in my opinion, that is of importance, but generally of lesser importance than the gyrations and fluctuations in monetary policy.

Dr. HAMBURGER. I agree with you.

Chairman MITCHELL. Thank you.

Congressman Lowry?

Mr. LOWRY. Mr. Chairman, that was my question also. I just want to clarify. I believe that in answer to Chairman Neal's question, we received an affirmative from all three of you that you would support congressional action directing the Fed to accomplish a reduction in the money supply gradually over the next 3 or 4 years to somewhere near the growth in the GNP; and that this should be congressional action, as opposed to the normal send-them-letters procedure.

I think that is the important question and I agree. In fact, I have asked Chairman Neal if he would consider me as a cosponsor on this bill.

As a little insurance against the shortrun displacement of people that may occur as a result of that policy, would a fiscal policy of this Government being prepared with rather extensive increases—let's say \$7 billion—in transfer payments expenditures, of unemployment or job replacement-type provisions for individuals displaced during this period of restraining or reduction in the monetary supply, be counter to this program? Is there a way that we can be prepared for an increase in fiscal support through, say, maybe an additional \$7 billion in increased unemployment or other type of individual aid to people who may find themselves displaced temporarily as we go through this tightening period? Would that be contrary to this goal of reducing the money supply and getting a handle on inflation?

Professor BRUNNER. The traditional procedure of the Fed has established some connections between monetary and fiscal policy. Large and persistent deficits foster monetary growth, and large surpluses, as in the early postwar period, encourage monetary retardation.

It was exactly the interest targeting policy of the Fed which assured this connection.

The proposal of monetary control advanced last March by the House Committee on Banking, Finance and Urban Affairs would break this connection. An effective anti-inflationary policy cannot persist with a monetary growth conditioned by budget deficits.

It should also be noted that the requirement of a predictable framework for monetary policy also extends to fiscal policy.

It would be very useful if a stable framework of fiscal policy pertaining to taxes and spending programs were instituted. The economy could look forward over several years under the circumstances and know where it stands. It would not have to reassess every year the tax situation, the shifts and modifications in spending programs, the newest interpretations of the tax laws, another round of pending legislation, and continuously search and invest in necessary readjustments.

We encounter here aspects of the problem which contribute to stagnating productivity and investment.

So a similar pattern applies to fiscal policy in this respect for our prospects over the 1980's.

Dr. BERMAN. I would like to concur and add that some additional fiscal stimulus would also be appropriate.

Again, I would emphasize, as I have, perhaps too many times, that the most helpful thing could be done to minimize downside employment risks in pursuit of a phased money growth reduction program is to have a clear mandate from Congress, as specific as we can make it, so that as many people as possible could be convinced that after 15 years, we are really serious and have a strong national commitment and that we're going to get on with the job and we're going to do it.

Dr. HAMBURGER. I would like to support that proposal. However, I do have some reservations and they stem from the fact that I am very much concerned about the relative size of the U.S. Government in the U.S. economy.

And while it might be nice to provide that kind of aid for people who got displaced, or additional aid for people who got displaced during a period of recession, I think it might be appropriate to go back and look more fully at the total balance of transfer payments and various kinds of compensation for the unemployed and the needy, and decide do we really have to add to that or perhaps we should just reallocate what we are already doing?

Mr. LOWRY. As you well know, we are projecting a deficit of \$30 billion now and it was \$65 billion 3 years ago.

Given the importance of this reduction in the monetary supply versus having a \$37 billion deficit, it seems to me that it would cause a relatively small difference in the deficit for insurance on this program.

Would this spending increase throw away our move toward fiscal restraint which we have had and are continuing to have and have a commitment in this Congress to have?

Is the difference of \$7 billion that important as relative to the monetary policy gains toward inflation?

Dr. BERMAN. Over the next 3 years, if we maintain the same 7-percent rate of monetary stimulus that we have had over recent years, the M_1 money supply will increase perhaps another \$80 billion.

If we have a phased reduction, then the money supply need only increase \$40 billion. And I would suggest that that \$7 billion when compared to \$40 billion would not seriously jeopardize the objectives of an anti-inflation program.

Mr. LOWRY. Thank you, Mr. Chairman.

Chairman MITCHELL. Ms. Oakar?

Ms. OAKAR. Thank you, Mr. Chairman.

I want to follow up on that question. My problem sometimes with economists, to be honest, is that they look at the Nation's economy and the value of the dollar and so on, but they don't always deal with the realities of monetary policy in terms of unemployment, what it does to the housing industry, and the real worlds that people live in day to day.

Now some of you have talked about 5-year plans and so on. But specifically—and I am sorry. I will read your testimony, but I have not heard all of it or had a chance to read it all, but specifically, since all three of you really support a policy that places a primary focus on inflation, what specific effects would this have on unemployment?

Professor BRUNNER. Let us see what happened under the inflationary policy pursued over the last 14 years.

Our average unemployment rate has persistently risen, and ratcheted up in repeated steps.

This inflationary policy hardly contributed to keep unemployment down. We abandoned a stable price-level without any reduction in unemployment. We have consequently raised interest rates by a very large margin beyond the levels existing in the early 1960's. This change has injured low-income groups more severely than higher income groups.

Should we really proceed with an anti-inflationary policy, we know on the basis of substantial and strong evidence what will happen: inflation will go down and we could lower it down to zero.

But what about unemployment? We do indeed face a risk of temporarily increased unemployment produced by an anti-inflationary policy. This problem largely results however from the pervasive lack of credibility encountered by the Fed's policymaking. A credible and convincing shift to an anti-inflationary policy would substantially lower the magnitude and length of excessive unemployment. I wish we could avoid this risk but nothing is quite without risk in life and we have to acknowledge this. But anti-inflationary policy would involve a substantially smaller risk for the next years than a policy which continues what we have done over the past 14 years.

Dr. BERMAN. I would again like to emphasize that the past history of the 1970's versus the 1960's was that a decade of extraordinary monetary stimulus was accompanied by 3-percent real growth instead of 4 percent, an average unemployment rate of 6.2 percent versus 4.8 percent, and a rate of investment in plant and equipment only one-half the rate of 1960's.

Ms. OAKAR. What about the 1970's? You said the 1960's.

Dr. BERMAN. I am comparing the 1970's with the 1960's and trying to make the point that in the 1970's, we have had less real growth, higher unemployment and only half as much investment.

Now if one takes those figures and fully appreciates what has happened as a consequence of a decade long program of excessive monetary stimulus, then I think that we have fairly good reason to expect that if we initiate a serious anti-inflation program, we will have strong gains in output and in employment and every American will benefit.

Ms. OAKAR. Did you want to comment?

Dr. HAMBURGER. I fully agree with that. But let me go on and say, I don't want to engage in any kind of active exchange, but to the extent that economists are accused of thinking about things in generalities and not worrying about—

Ms. OAKAR. I was being the devil's advocate. Don't take it personally.

Dr. HAMBURGER. I am not. But you mentioned housing. What is the appropriate level of housing construction and should we be concerned if the rate of housing construction were to fall off? How bad would that be?

Well, one of the questions in my mind is who has been doing all the house building or who has been doing all the house buying in the recent inflationary period.

I wonder to what extent that inflation causes people to invest in housing? And presumably, these are people with considerable means and not those at the lower ends of the income structure.

So I just wonder whether, to the extent we are afraid to pull back and we continue on this upward inflationary cycle, people with means are going to continue to believe that housing is the only way to protect themselves. I don't think that that is going to do very much for the lower end of the income structure.

Also, when we say that investment has been held down by the uncertainty created by the policy of the 1970's, it should be kept in mind that when investment increases and productivity rises the whole economy benefits from that.

Ms. OAKAR. I think I will let it go at that. Thank you Mr. Chairman.

Chairman MITCHELL. I am mindful of the fact that we have other panelists, and therefore, I will limit myself to just one observation and perhaps two questions.

While I am in agreement that we ought to set some specific goals for monetary policy, I must say to you gentlemen that I have a real concern about any policy that is established based upon total rigidity and total inflexibility.

I just don't believe that we know the science of economics or the way the market operates sufficiently well that we can set a policy that is absolutely inflexible and absolutely rigid.

Now I understand under Chairman Neal's bill that there are some outs. But I was a bit disturbed by testimony from two of the witnesses that suggested very strongly, no matter what happened, we hold on to that policy.

I just don't think we know the functioning of the economy that well. I don't think that we know it well enough to advocate that kind of position.

Now I want to follow up on the question by Congresswoman Oakar and Congressman Lowry.

There is an agreement that there will be a rise in unemployment in 1980. To what percent? How much will it rise? If it rises to 7 percent or 8 percent, what do we do? Just tolerate that level of unemployment until such time as there are adjustments in the business world so that employment opportunities are advanced, and in that way reduce unemployment?

The point I am trying to make is, in a followup to Congresswoman Oakar and Congressman Lowry, unfortunately, there are some human beings out there. And if unemployment goes up 1 percent, those who lose their jobs or can't get jobs have got to eat, they have got to pay rent, they have got to feed and clothe their children.

And it sounds kind of callous to me to suggest that this temporary increase in unemployment ought to be just borne by those people, with the optimistic assumption that if all things go well, the market will be stimulated sufficiently and they will become employed at some point in the future.

That is my area of concern. What do you think if we were able to set the targets that you suggest, how much do you think unemployment would rise immediately?

Do you have any idea?

Professor BRUNNER. Your questions address the central reason for our insistence on a public and committing announcement by the Fed on a stable and predictable course with a gradual decline of monetary growth distributed over several years. I am very much opposed to a hard, sudden and rapid decline in monetary growth.

If the Fed would accept this proposal, Mr. Chairman, then I would be very much astonished to observe an unemployment rate piercing 8 percent for any length of time. This would be quite improbable under the circumstances.

Chairman MITCHELL. Beyond what percent?

Professor BRUNNER. Beyond 8 percent for any length of time. If it rises beyond 8 percent for half a year, say.

Chairman MITCHELL. For how long do you think that 8-percent rate of unemployment, that rise, would be sustained?

Professor BRUNNER. If the Fed would start executing now this policy, then the unemployment rate would start drifting down at the latest, by the spring of 1981. This is my best judgment in view of the uncertainties still remaining about the Fed's execution and performance.

Chairman MITCHELL. Then roughly a year, or a little better, that we would have to tolerate an 8-percent rate of unemployment?

Professor BRUNNER. Well, Mr. Chairman, the alternative is that we continue the policy which we have been pursuing the last 15 years.

Chairman MITCHELL. Please don't misunderstand me, Professor Brunner. I think the goals that you have stated are laudible and I share them. But I also have to share some concern with flesh and blood.

Therefore, for a year, according to your speculation, they are going to be out of work.

Dr. Berman?

Dr. BERMAN. Chairman Mitchell, I very strongly share your concern that you quite justifiably have about any narrow focus policy.

I wish I could sit here and advise that there is a magic way of restoring reasonable price stability without incurring any downside risks whatsoever on unemployment while that policy was being pursued. I believe those risks to be quite small, and certainly acceptable. And just to be prepared, standby programs would make good sense.

It is precisely because of what has happened in the last decade and what promises to most certainly happen throughout the 1980's that we need begin frontal assault on inflation. If we do not rise to the challenge, those on fixed incomes, the disadvantaged and the elderly will continue to take the full brunt of the soaring rise in the costs of basic necessities. Those who have moneys set aside in private pension plans will continue to see their prospects of enjoying respectable retirement decline. Failing to mount an effective anti-inflation program unquestionably has longrun costs that for overshadow the potential, small as it is, shortrun costs involved in getting that program underway.

Chairman MITCHELL. I agree. I agree. But I am dealing with the segment of the population that is going to become unemployed as a result of the policy.

My question, I guess, is: Would you support some kind of fiscal policies to help those people who are enjoying unemployment as a result of the laudable goal that you have set forth?

Dr. BERMAN. I certainly would and I would add that if there was a powerful commitment that was understood throughout the private enterprise sector that something in fact was going to be done about

inflation, then I think that we would see a strong increase in investment. It is enhancing productivity investment that creates jobs. Those jobs make our country a better place in which to live.

Chairman MITCHELL. There is no question in my mind but that you are right on target. I am talking about human suffering in the interim.

Dr. Hamburger?

Dr. HAMBURGER. First of all, I would not support providing benefits to any people who enjoy unemployment.

Chairman MITCHELL. You notice the way I phrased the word "enjoy unemployment." The meaning of that word is to endure as well as to have pleasure from enduring.

Dr. HAMBURGER. As I indicated before, I would be in favor of such a policy, subject to two qualifications: First, Congress ought to try to hold the line on total Federal spending. Second, it would help immensely if a bill like Chairman Neal's was also passed. Then the economy would get the message that it is not business as usual, that Congress is not going to provide benefits, increase the deficit, and then complain to the extent that the deficit means rising interest rates and finally beat on the Fed to lower the interest rates and increase the money supply.

So if one had a package of those three things, I think it would be beneficial.

Also, as I indicated in my statement, I too, initially, found fixed rules difficult to accept.

But my experience, and I have worked for a number of central banks, is that they don't use the discretion that they have to the country's best advantage. Their intentions are good, but it doesn't work out very well.

Finally, the clear and present benefit of adopting a firm monetary policy guide is that it would limit the increase in the unemployment rate.

I would be willing to bet that this reduction could be half a percentage point if the public was persuaded that the anti-inflation program was a permanent one, because then some businesses might decide to lower their prices.

On the other hand, if the public believes that nothing has changed, the Fed is tightening now, but it will expand later, businesses would be much less likely to cut their prices.

Businesses, large businesses, are not supposed to cut their prices, but some do. The large automobile companies cut their prices when things don't go well.

If the Fed made it clear that it was gradually going to lower the rate of inflation, the rate at which firms increased their prices would slow. A few might actually reduce their prices. And this would mean that some of the decline in nominal income would come in prices. Less would come in real activity. And hence, there would be less of an upward push on unemployment.

So that is a clear and present benefit of adopting a tight monetary policy rule.

Chairman MITCHELL. Clear, present, but delayed because you agreed earlier that there would be an immediate rise.

Dr. HAMBURGER. Yes; but less of a rise.

Chairman MITCHELL. Let me just make one point here.

Gentlemen, I will tell you, I am not a very good politician, but I think I have studied this Congress. And you let unemployment hit 8 percent. And 50 percent of those who define themselves as fiscal conservatives, when they find 8-percent unemployment in their districts, even on a temporary basis there is going to be an enormous pressure, an enormous pressure to ask the Fed to violate that policy.

My point is that we, in our thinking as we move toward a fixed monetary policy, and I use "fixed" in quotes, have got to find some very, very significant means of addressing the problem of immediate increases in unemployment as may result from that monetary policy.

Ms. OAKAR. Would the chairman yield on that?

Chairman MITCHELL. I would be delighted to yield.

Ms. OAKAR. Mr. Chairman, thank you, because I think that you are reiterating my thoughts far more eloquently.

I serve on the National Commission on Unemployment Compensation.

One of the crucial issues that we are talking about is whether or not to dismiss extended benefits or to expand them. It is a very, very important question.

Or do we do it only in areas of the country that are most affected by unemployment, areas such as the urban areas, such as States like Michigan, that every time you have a rise in oil prices, and so forth, their trust funds for unemployment compensation are just about bankrupt, if they are not already.

So you see, we have this problem. Also, the question of investment.

It would be great to think that with expanded investment, women and minorities are going to get those new jobs. But we all understand that at least in 1979 or 1980, that they are not going to be the ones who get the jobs. They are going to be the ones who have the hardest time getting the job to begin with and are the first to go off the payroll when unemployment takes place.

I think that is what I was talking about when I said that the comprehensive view of economists should be to take all that into consideration and then come up with advice.

But if you just take it in a provincial manner, just as I suppose I take it in a provincial manner from the other side of the coin, then I think we are going to have—we are never going to resolve the problem.

Chairman MITCHELL. Let me just kind of try to get ourselves along some kind of path again. I would like to yield to Chairman Neal to make a point. I feel very guilty. We have two other panelists waiting. Perhaps I shouldn't have opened up this area of inquiry, but I would like to cut it off after Chairman Neal makes his comment. We have held the other panelists waiting for almost an hour and a half. Maybe if you are around a little while, maybe we can come back to you. I am sorry. I don't want to sound arbitrary, but I think it is only fair to other panelists.

Chairman Neal.

Chairman NEAL. Well, I will be very brief.

I share the concerns expressed by the chairman and Ms. Oakar. I think in my own mind the significant question is: Are we going to

have, on this specific question, are we going to have higher unemployment by bringing down the rate of growth of inflation, or are we going to have higher unemployment by continuing on the course that we are on?

I would argue very strongly that we are going to have much higher unemployment, much more suffering, by continuing on the course that we are on than we will if we would pursue the policy we have been talking about and all agreed upon this morning.

I would be most grateful if you all could find the time to submit some analysis of this question: Will we have more unemployment by following the path that we are on, or are we going to bring down the rate of unemployment by bringing inflation under control?

And I thank the panelists very much.

Chairman MITCHELL. Gentlemen, thank you very much.

If you can stay, fine. I merely want to reiterate what my immediate concern is. Anybody who knows anything about the way the economy functions knows that if we have growth in the private sector, that ultimately is going to do more to reduce unemployment than most of the Government efforts on hand right now.

My hard-focused area of concern is: You add another million people to the unemployment rolls—and I am only using 1 million as a figure—we add them to the rolls when we adopt this policy; how do you deal with that add-on? Not necessarily even those who are presently unemployed? That is my area of concern.

Gentlemen, thank you very much. I appreciate it.

Next, we will hear from Prof. David I. Fand, of Wayne State University, and Prof. Jacob A. Frenkel of the University of Chicago.

Gentlemen, thank you very much for taking time from your busy schedules to be here. You have the same option as our other panelists: If you have prepared statements, which I believe that we have, you may submit that in its entirety for the record and merely talk from the salient points in your testimony, or proceed with your testimony in its entirety. It is entirely up to you.

Professor Fand, why don't you lead off with the testimony.

STATEMENT OF DAVID I. FAND, PROFESSOR OF ECONOMICS, WAYNE STATE UNIVERSITY

Professor FAND. Mr. Chairman, I am grateful for the opportunity to testify here at the meeting of the two subcommittees on the occasion of their oversight hearings. The subject of these hearings is, in my opinion, of crucial importance to the American economy.

I have several sections that I will summarize very briefly. I first would like to deal with the specific questions that you raised in your letter about the two strategies, make a few comments about the Federal Reserve action of October 6, make a comment about monetary credibility, and then I would like to talk about the short-run and the long-run effects if we follow this policy. So, I will just summarize very briefly what I have.

Under strategy 1, we would be operating on short-term rates in order to halt the decline in the value of the dollar. There are some important risks which I think we should summarize briefly. Strategy 1 is, in some ways, very similar to a gold standard, in that the

domestic economy is being asked to adjust to the exchange rate. But it differs from a gold standard in that in a gold standard this is automatically accomplished through gold flows. Under strategy 1 it would be accomplished through central bank action.

While I present some criticism of strategy 1, I also would like to point out that this is not really being proposed as a serious and comprehensive approach to monetary policy. Fundamentally, strategy 1 deals with the symptoms of the problem rather than with the fundamentals. And because it deals with the symptoms, it is the kind of policy that is often resorted to when the symptoms are bad; that is, when the dollar takes a sharp decline. But while it is not advocated as a comprehensive approach to monetary policy, in practice it is used quite often; and because it is used quite often, I think it is worthwhile discussing what may be some of its shortcomings.

To begin with, we in general do not know what kind of change in interest rates will do the job properly. In other words, we do not know how much you have to change rates to get the desired capital movement or the reduction in aggregate demand. Also, when the exchange rate is under pressure, we don't know whether we should try to correct it by reducing aggregate demand or by attracting capital. Also, modern portfolio theory, and here I will defer to Professor Frenkel, argues that a given differential will only have a one-short effect, so that if you raise U.S. rates, you will force portfolios all over the world to make adjustments, and you get a stock effect which is substantial in the first period, but you do not get a continuing effect. If you want to get a continuing effect on the balance of payments, you've got to keep raising the differential. To this extent, it is a weak policy.

Finally, even if we succeed in accomplishing the desired exchange rate by means of this policy, one has to ask the more fundamental question, because if we are relying on an inflow of capital to stabilize the exchange rate, we may be in effect operating with an overvalued currency and one can raise a question as to whether this is desirable. There is also the opposite problem. You can raise the rate high enough to attract enough capital to live with an overvalued currency; the opposite danger is that you may raise the rate so high as to cause serious damage to the domestic economy.

And finally, this policy cannot work unless there is tremendous cooperation among all central banks.

These are serious reasons I believe for not following strategy 1.

Now I would like to make some comments about strategy 2. I am very much in favor of strategy 2, and I would like to point out that while strategy 1 has never been articulated as a comprehensive monetary policy, in practice it is used quite often. Strategy 2, which has been advocated by some articulators and formulators of monetary policy has thus far, never been adopted by any central bank. In other words, there is sort of a paradox that one policy has never been formulated but it is often used, the other policy has been formulated quite a bit but it has never been instituted.

In my comments here—and I want to emphasize I have great sympathy for this doctrine—I am very much in sympathy with Chairman Neal's bill. I thought it would make sense for me to focus on what may be some of the problems if we follow this policy. And in doing that, I thought of what actions could happen which would make you want to reconsider the policy.

The first action that could happen would be: What if interest rates go through the roof? In other words, suppose we institute this kind of policy where we have a program for the path of the monetary aggregates and then, for some reason, interest rates go through the roof? Now, here, I think, one has to go a little further and ask why interest rates are rising so abruptly. They could be rising because there has been an outbreak of inflationary expectations. They could be rising because the real economy is being stimulated more than we expected it. They also could be rising because there is a sudden autonomous increase in the demand for money.

In some cases, the smart thing, the correct thing, to do is to do nothing. In other cases, there may be a case for violating the guidelines. The point that I would make is that you may want to violate the guidelines if you had very strong evidence that it was due to an autonomous shift in the demand for money. If that was the problem, if you could find that there has not been an increase in inflationary expectations, if you could find that the economy is not heating up, that there is increasing slack and in spite of that interest rates are rising very sharply—then I think that would lead you to believe that you are dealing here with the problem that demand for money is increasing, and thus there may be some reason there to interfere with the guidelines.

Another problem could arise: Suppose you institute Chairman Neal's guidelines and the inflation rate goes through the roof unexpectedly. Here, too, we have to go through and analyze the various possibilities: Is it due to inflationary expectations; is it due to the fact that the economy has less slack than we thought, that the economy is heating up; is it due to something that has happened to the world outside of us that is causing this? Here, also, it could be due to the fact that there has been an autonomous abrupt decline in the demand for money.

In some cases, you stick with the guidelines; in other cases, you may want to violate them. Again, you have to go through the various cases to see if you can build an impressive case for deviating from the guideline.

Another case you might want to consider is: We institute Chairman Neal's guidelines, and, say, the exchange rate drops through the floor. Again, you would have to consider a number of factors: Whether this is due to a very strong economy; to inflationary expectations; or to something happening abroad. In some cases, we would decide to stick with the guidelines because we get a self-correcting policy; in other cases, we may have to modify the targets.

Then I come to the most difficult question—which I have had the benefit of hearing your comments—which is: What if unemployment rises and goes way beyond where we expect it? This is the most serious question. And here my view would be that we would have to use fiscal policy to alleviate some of the problems. And as was brought out in the prior session, I think Chairman Neal's proposal would pass easier if it was coupled with another proposal to deal with the unemployment hardships that could be generated in instituting what I consider to be the correct monetary policy.

My views, of course, are going to be influenced by the fact that I live in Michigan, and I know that some sectors get hit very hard—for example, automobiles. Also, you are likely to get a sharp rise in

unemployment in the inner cities. So, in order to get greater acceptance of what I consider to be your correct monetary proposal, I think it should be coupled with a comprehensive plan to ease the unemployment burden, and when to bring in certain programs on the fiscal side to offset some of the damage done in this desirable disinflation effort.

My proposal would be on the fiscal side and would not alter the monetary guidelines. Also, I would not go in for general stimulus. I think these problems are apt to be specific; they are apt to be, as I said, in the automobile industry, or they are apt to be in housing, or they may be in the inner city and places like that. Since the problems are apt to be specific, I think the fiscal policies should be geared in that direction.

Finally, I come to what I consider also a very difficult question in following out Chairman Neal's guidelines: What happens if there is a supply shock—say, the price of oil is doubled or tripled—in other words, there is a significant enough shock that if we follow through the guidelines we are going to generate a lot more unemployment and a lot more difficulty than we would ordinarily expect?

This is difficult to deal with, and it requires judgment. But I think that if we had a very serious shock, this would be a case for modification of the monetary guidelines. However, I would like to make this point: The link between monetary policy and oil prices points up a paradox: If we follow very expansionary policies, we will generate high rates of inflation and we will end up with sharp oil price increases. It would be ironic if the consequences of a monetary policy that permitted high inflation and the resulting high oil prices were used to stop us from adopting a policy which could thwart inflation and, in this way, slow down the escalation of oil prices.

I would like to make a few brief comments about the Federal Reserve action of October 6. Basically, they took three actions. I think one was more symbolic than real—namely, the discount rate. There was an action about the managed reserves. But the third, the announcement that they would abandon interest rate targeting and that they would try to control money through reserves rather than through interest rates, is, everybody now agrees, the most significant action.

In my opinion, a very important point of support for the Fed's new policy to highlight the monetary aggregates is that if we stick with this policy, we may achieve for the first time monetary credibility with the public. Should we achieve this kind of credibility, monetary policy may once again become the beneficiary of stabilizing expectations; thus, whereas, up to now, the public has been expecting inflation to become worse and has been making successful bets on this basis, if we stick with the new policy, those that bet on stability will be rewarded and not those that bet against it.

So, in my opinion, that is the most important thing—namely, monetary credibility.

Now, just a brief comment about monetary credibility and the aggregates. A lot of people go through debates as to whether the Federal Reserve can control the monetary aggregates within a month or within a week or within a quarter. I think basically this is a very interesting technical question, but it does not get at the issue of credibility, which I think is the important question.

The crucial issue, in my opinion, is: Is monetary credibility whether the Fed is committed to pursuing a policy of achieving a given path for the aggregates and whether the Fed will stick to this policy, or, conversely, whether the Fed will follow a permissive and passive policy that accommodates interest rate movements and imparts an inflationary bias into the economy?

Now, in my testimony I have comments about the substitutes, the monetary substitutes. I think there is a little problem there. I think you do have to think a little bit about the ATS, the RP's, and offshore deposits, but I think this can be worked out and we can arrive at a monetary aggregate that would do the job.

Now I would like to conclude with making a few comments about the shortrun and longrun effects of this policy. First, let us consider the shortrun effects of following a policy like Chairman Neal's bill.

We are now in a quite difficult economic situation with double-digit inflation, historically high interest rates, and an economy which is teetering toward recession. No policy, no matter how good it may be intrinsically, can look good when it is introduced in these conditions. Any policy introduced in these circumstances—even one crafted by the wisest of minds and the noblest of hearts—could not give us results that could be called satisfactory.

Consequently, one should bear in mind, when assessing the effectiveness of this new approach to monetary policy, that it is being introduced at a time when the very survival of the American economy is at stake. A good captain with a good ship and a good approach to navigation may safely pilot a ship through a stormy, turbulent sea, but even the best captain with the best navigational skills could hardly make this trip smooth.

We should therefore keep in mind that the consequences of disinflating the economy in the next few months are going to be painful and that those pains cannot be cited as a fair criticism of the policy. So much for the short run.

What about the long run? For the long run, the new monetary policy is apt to bear abundant fruit. In sharp contrast to the short-run, where even the best policy will generate short-term transition and disinflation effects that will not look good, the longrun results are likely to be extremely good and beneficial—if we have the patience, the fortitude, and the maturity to stick with this policy. It is a policy that offers the promise of giving us a noninflationary economy while still maintaining free markets without credit rationing, without commodity rationing, and without controls.

It also offers the hope that, if we get through the disinflation transition period, we may once again see the American economy develop along the path it was going before we ran into the devastating and destructive turbulence of the post-Vietnam inflation and its threat to our free institutions. I hope we follow and stay with this policy, and I think this is the only policy that will enable us to get the goals of the Humphrey-Hawkins bill.

[Professor Fand's prepared statement follows:]

TESTIMONY BEFORE THE UNITED STATES HOUSE OF REPRESENTATIVESCOMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS

December 4, 1979

David I. Fand
Professor of Economics
Wayne State University

Mr. Chairman:

I am grateful for the opportunity to testify here at this meeting of the two subcommittees on the occasion of their joint oversight hearings on "Monetary Policy - Goals and Conduct for the 1980's." The subject of these hearings is of crucial importance to the future of the American economy.

You asked us to comment on two alternative monetary strategies for the 1980's.

Strategy I places top priority on halting the decline in the value of the dollar; it proposes to do so by keeping money "tight" and by resisting speculative attacks against the dollar. The Federal Reserve, under this strategy, would raise the federal funds rate, keep U.S. short term interest rates high, slow U.S. money growth and provide incentives for money managers throughout the world to buy and hold dollars and dollar denominated securities. The Federal Reserve and the Treasury would, in cooperation with other banks, intervene to combat excessive fluctuations in exchange rates that might arise in speculation against the dollar. Once the dollar is stabilized, monetary policy could gradually be reoriented toward domestic goals.

Strategy II, in sharp contrast, does not focus on movements in interest rates and in the exchange rate and concentrates instead on establishing a long run non-inflationary money growth path. Specific recommendations to fix monetary policy in terms of money growth rates may be found in H.R. 5476, recently introduced by Mr. Neal, and in the Housing Banking Committee's recommendations in its "Second Report on Monthly Policy for 1979" which suggests that a stable monetary policy should take precedence over efforts to prop up the international dollar.

I would like to comment on these two alternative monetary strategies and to focus on some of the problems that may emerge if we follow either of these two policies. I will also discuss briefly the actions taken by the Federal Reserve on October 6, the feasibility and desirability of controlling monetary aggregates, and some of the short run and long run effects that might emerge from this new policy.

I. SOME PROBLEMS WITH STRATEGY I

Under Strategy I, we would be operating on short term rates in order to halt the decline in the exchange value of the dollar. There are, however, several important risks which this kind of monetary policy entails, and I shall discuss these in some detail.

Strictly speaking, Strategy I, which seeks to maintain the exchange value of the dollar, is in some ways similar to a gold standard, and suffers from its main defect. But whereas under the gold standard, the exchange value of the currency tends to be automatically adjusted by means of gold flows, under Strategy I it takes central bank action to bring about

this stability in the exchange value. In presenting detailed criticism of Strategy I, I do not want to leave the impression that it is being seriously advocated as a comprehensive approach to monetary policy. Fundamentally, Strategy I deals only with the symptoms of the problem rather than the fundamentals. And because it deals with symptoms, it is the kind of policy that is often resorted to when the symptoms are bad; that is, when the dollar is suffering a persistent decline. While it is, strictly speaking, not being advocated as a comprehensive monetary policy, it is in practice quite often used, and it may not be amiss to discuss it in some detail.

(1) We do not know in general the kind of short term rates that will give us the desired capital movements or the necessary reduction in aggregate demand to ease the pressure on the exchange rate. It is a quite difficult question in practice to determine, in a particular circumstance, how much of a change in the federal funds rate and in other short term rates is necessary in order to bring about a desired movement in the exchange value of the dollar. The relations between the federal funds rate and other short term rates, between short term rates and capital flows, and between short term rates and aggregate demand are not all that precise. The implementation of this approach to monetary policy poses a difficult task in practice, and especially when the exchange rate is under pressure.

(2) When the exchange rate is under pressure, how do we decide whether we want to raise interest rates in order to obtain an inflow of capital so as to finance our deficit or whether we want to raise interest rates in order to reduce aggregate demand and eliminate the imbalance. This fundamental question whether we want to finance the imbalance or, conversely, change the

underlying circumstances and eliminate the imbalance is a fairly basic question; and it is unclear how we go about selecting instruments to implement either of these two alternatives.

(3) We also have to confront the problem whether a given interest rate differential will do the job. Recent portfolio theory would seem to suggest that if we raise U.S. rates and introduce a differential, it will have a one-shot effect on attracting capital, and it will take an increase in the differential, or an increasing differential, in order to bring about a continuing inflow of capital.

(4) This portfolio theory suggests that it will be necessary to keep ratcheting interest rates upward in order to get a continuing effect on the exchange rate. Accordingly, this is a weak policy since it requires a continuous rise in U.S. interest rates in order for the policy to achieve and maintain a given exchange rate.

(5) Even if our exchange rate policy should succeed in maintaining some desired value for the exchange rate, we still must go on to ask the next question. To what extent are we relying on an inflow of capital to maintain an exchange rate which is perhaps overvalued? We are, in effect, following a policy which is generating an excess supply of dollars on the one hand, and then we raise the interest rates so that these dollars will be taken up in foreign loans which will enable us to maintain an overvalued currency. But is it desirable for the U.S. to maintain an overvalued currency, and is it desirable to raise interest rates in order to generate capital inflows to enable us to maintain an overvalued currency? The interest rates which maintain equilibrium in the exchange market also maintain a level of aggregate demand that generates an excess supply of dollars.

(6) There is also the opposite problem in which the interest rates that maintain equilibrium in the exchange market may be too high for the domestic needs of the economy. Thus, the interest rates which equate the demand and supply of dollars in the exchange market may also cause a slow-down in U.S. monetary growth and a recession. There is no assurance that the interest rates which produce equilibrium in the exchange market also produce equilibrium in the other domestic markets.

(7) There is also the problem that such an interest rate policy cannot be successful without the cooperation of other central banks, for if other central banks raise their interest rates as we raise ours, this policy will not have the desired effect on the exchange value of the dollar. But even if all the central banks do cooperate with us, there is still the problem, which we just noted, that the interest rates that are appropriate for the exchange rate may be too high for domestic purposes and would cause a sharp deceleration in monetary growth and recession or, alternatively, they could also be too low relatively and enable us to maintain a level of aggregate demand that is responsible for the excess supply of dollars.

II. SOME PROBLEMS WITH STRATEGY II

While Strategy I has not been formally advocated as a guide for monetary policy, it tends to be used by governments and central banks when their currency is under pressure. In contrast, Strategy II has had some advocates, but it has never been officially adopted, up to now, by any central bank. Strategy I is, in a de-facto sense, popular with the practitioners in

central banks but has not really been advocated explicitly by the formulators and articulators of monetary policy. Strategy II does have some support among the articulators of monetary policy, but has very few adherents among the practitioners in central banks.

I would like to focus on some of the problems that may emerge as we follow Strategy II and fix on some path for the monetary aggregates over time. We will be focusing on the problems that may emerge, and we will not consider the case where everything goes along smoothly.

(1) One problem that may emerge is that interest rates may rise much more than we expect, and we have to consider what we would do if that should happen. Suppose there is a sharp escalation of interest rates while we have been following a policy of relatively stable growth in the monetary aggregates. We have to consider why interest rates are rising. Let us consider a few prototype cases. It could be due to the fact that inflation is accelerating, or it could be due to the fact that real economic growth is exceeding potential growth, and that there is very little slack in the economy. Alternatively, it could be due to a sudden sharp, autonomous increase in the demand for money. In the first two cases, if we stick with the same path for the aggregates, we have essentially a self-correcting situation, and that will help us avoid an escalation in inflation. The third case is more difficult, and perhaps unlikely, but if we had some basis for ascertaining that there was an autonomous shift in the demand for money that was causing the rise in interest rates, and that it was not due to an increase in inflationary expectations or to an above potential increase in real economic activity, then there is a basis for seeking to modify the monetary growth targets.

(2) The inflation rate may be rising beyond our expectations. Here again, one would have to consider a number of different prototypes: It could be that the real supply of output--potential output--is smaller than we thought; it could be due to an increase in inflationary expectations; it could be due to a rise in world prices; or it could be due to a reduction in the demand for money. If the increase in inflationary expectations is a temporary one, sticking with a given path for the monetary targets will give us a self-correcting policy, but if the problem persists, they may be a basis for adjusting the money growth path. In the other case, and especially when there is an autonomous reduction in the demand for money that it is not associated with inflationary expectations, there is a more direct basis for reducing the monetary targets.

(3) Suppose the exchange rate starts falling beyond the range we thought reasonable or possible. Here again one would have to consider a number of different factors. Such a sharp decline could be due to the fact that the real economy is growing at a very rapid rate. It could be due to the fact that inflation is accelerating. It could reflect a portfolio switch from U.S. dollars to foreign currency, or it could be due to conditions abroad and have very little to do with what is going on in the United States. In some of these cases, sticking with the targets would give us essentially a self-correcting policy. In others, there may be a case for some modifications of the targets.

(4) Unemployment may be rising substantially and beyond the range that we expected. Should there be a larger than expected rise in unemployment--one that is deemed to be excessive but still also believed to be somewhat

temporary--I would not opt for changing the monetary growth path. If necessary, I would propose using fiscal policy measures in order to alleviate some of the problems when it is determined that we have excessive unemployment. Considering all the relevant factors, I would not want to change the monetary targets unless we had convincing evidence that the unemployment rate was due to a low rate of monetary growth, and the disinflationary effect was too severe.

(5) The most difficult question is the case of a supply shock and, specifically, a very rapid increase in the price of oil. This brings up a question which is not only analytically difficult but also involves questions of judgment. To take a dramatic case, assume the price of oil has been doubled. If we continue with the same path for the monetary targets that were appropriate before the shock, they will generate more unemployment in the short run. One could make a case that some modifications of the targets may be appropriate in the event of such a supply shock where oil prices are raised beyond a certain point. But while some modification of the targets may be necessary if there is a very sharp escalation in oil prices, I would also like to suggest that we are less likely to run into such inordinate increases in oil prices if we improve our disinflationary performance.

The possible link between monetary policy and oil prices points up a paradox. If we follow very expansionary policies, we will generate high rates of inflation and end up with sharp oil price increases. It would be ironic if the consequences of a monetary policy that permitted high inflation and the resulting high oil prices were used to stop us from adopting a policy which could thwart inflation and, in this way, slow down the escalation.

III. THE FEDERAL RESERVE ACTIONS ON OCTOBER 6

The Federal Reserve on October 6 announced three policy moves. First, there was an increase in the discount rate to a record 12 percent--an action that may be more symbolic than real. Second, there was the imposition of an additional 8 percent reserve requirement on larger quantities of purchased money; the reserve requirement applies only to those funds in excess of those held in the base period. Third was the announcement that the Fed would abandon its efforts to control money and credit supplies by regulating short term rates and, instead, permit short term rates to fluctuate in line with market conditions. The Fed would concentrate on the availability of reserves to the banking system.

The third action is the most significant of all. Attempts to manage the monetary system by jiggling short term interest rates were self-defeating. Each time the Fed wanted a signal that it was tightening policy, it increased the federal funds trading rate. Under this system, the prime rate advanced from 7 percent to 13 percent in 18 months. But even at these high rates, there is very little evidence that money and credit were in tight supply. Banks had abundant funds to lend and competed aggressively to increase new loans.

The change in the procedures for open market operations which the Fed has announced is significant. The new procedures in which the Fed focuses on the quantity of reserves rather than on the funds rate should lead to better control of the money stock. But the immediate consequences of this procedure were uncertainty, an unsettled state of affairs in the securities market, and these were aggravated by errors in the money supply figures. One wonders whether the turbulence that was generated in October was necessary.

It would appear that the Fed may have to float the discount rate. Otherwise, there would be a need for frequent and large changes in the discount rate which could be confusing. The funds rate has been averaging about 15 percent in October, while the discount rate was 12 percent. There is great temptation for member banks to borrow from the discount window rate than from the federal funds market. Such borrowing could cause problems for the Fed's new objectives. The Fed may plan on moral suasion to persuade banks from borrowing, but this may prove to be very difficult.

In my opinion, a very important point in support of the Fed's new policy to highlight the monetary aggregates is that if we stick with this policy, we may achieve monetary and inflation credibility with the public. Should we achieve this kind of credibility, monetary policy may, once again, become the beneficiary of stabilizing expectations. Thus, whereas up to now the public has been expecting inflation to become worse and has been making successful bets on this basis, if we stick with this new policy, those that bet on stability will be rewarded and not those that bet against it.

IV. MONETARY CREDIBILITY AND CONTROL OF THE MONETARY AGGREGATES

There are two other related questions which we have to consider.

(1) Whether it is possible for the Fed to control the monetary aggregates and (2) whether it is desirable for the Fed to conduct monetary policy by controlling the path of the monetary aggregate. Let us consider these two questions in turn.

Can the Fed control the growth of the monetary aggregate within reasonable limits? The Fed, in my opinion, can, although it does require

some changes in the operating procedures. I believe that the Fed can achieve a desired monetary growth rate within a quarter and perhaps even on a monthly basis; but a quarterly growth rate would be sufficient.

Many discussions about whether or not the Fed can control the monetary aggregates raise interesting technical questions but do not key in on the issue of monetary credibility. Whether the Fed can hit the monetary target fairly closely within a quarter or within a month is, of course, an interesting and important question. I am inclined to believe that they probably could do so even on a monthly basis if they set up their operating procedures to achieve this goal. Nevertheless, it is possible that a quarter might be a more reasonable period that would enable the Fed to comfortably hit the monetary targets. The crucial issue, in my opinion, is monetary credibility--whether the Fed is committed to pursuing a policy of achieving a given path for the monetary aggregates, and whether the Fed will stick to that policy or, conversely, whether the Fed will follow a permissive and passive policy that accommodates interest rate movements and tends to impart inflationary bias into the economy.

Also, the proliferation of monetary substitutes for money would complicate the problem. A reasonable operational definition of money would have to take account of ATS accounts, RPs and perhaps other developments including, perhaps, some offshore deposits and money market funds. This is a problem that requires some research at this point. I would also add that much of what is viewed as financial innovation is, in my opinion, much closer to financial evasion resulting from a host of interest rate controls and other regulation.

The second question is whether it is desirable. I would answer yes. As noted, once we focus on the monetary aggregates, and especially if we persist and succeed in controlling the growth of the money stock, there is the hope that the Fed will, once again, achieve monetary credibility with the public. It would be possible then for monetary policy to benefit from stabilizing expectations. A very important part of the struggle against inflation hinges on the expectation held by the public. If the public is really convinced that the Fed will take the necessary steps to win the war against inflation, that in itself constitutes a very major victory in the battle. I therefore hope that the Fed will follow through with this approach to monetary policy and that the American public will bear with the Fed as it is learning and mastering these new techniques of monetary policy.

V. SOME SHORT RUN AND LONG RUN EFFECTS OF THE NEW APPROACH TO MONETARY POLICY

I would like to conclude my testimony with some comments on the short run and long run aspects of this new approach to monetary policy.

First, let us consider the short run. We are now in a quite difficult economic situation with double digit inflation, historically high interest rates and an economy that is teetering toward recession. No policy, no matter how good it may be intrinsically, can look good when it is introduced in these conditions. Any policy introduced in these circumstances, even one crafted by the wisest of minds and the noblest of hearts, could not give us results that could be called satisfactory. Consequently, one should bear in mind, when assessing the effectiveness of this new approach to

monetary policy, that it is being introduced at a time when the very survival of the American economy is at stake. A good captain with a good ship and a good approach to navigation may safely pilot a ship through a stormy, turbulent sea, but even the best captain with the best navigational skills could hardly make such a trip smooth. We should, therefore, keep in mind that the consequences of disinflating the economy in the next few months are somewhat painful and that those pains cannot be cited in a fair criticism of the policy. So much for the short run.

What about the long run? For the long run, the new monetary policy is apt to bear abundant fruit. Thus, in sharp contrast to the short run, where even the best policy will generate short term transition and disinflation effects that will not look good, the long run results are likely to be extremely good and beneficial if we have the patience, the fortitude and the maturity to stick with this policy. It is a policy that offers the promise of giving us a noninflationary economy while still maintaining free markets without credit rationing, without commodity rationing, and without controls. It also offers the hope that if we can get through the disinflation transition period, we may once again see the American economy develop along the path it was going before we ran into the devastating and destructive turbulence of the post-Vietnam inflation and its threat to our free institutions. I hope that we follow and stay with this policy.

Chairman MITCHELL. Thank you very much. Professor Frenkel.

**STATEMENT OF JACOB A. FRENKEL, PROFESSOR OF ECONOMICS,
UNIVERSITY OF CHICAGO**

Professor FRENKEL. I am pleased to have the opportunity to present my views during these joint hearings. My remarks will deal mainly with the implications of the alternative strategies outlined in Chairman Mitchell and Neal's letter of invitation on the value of the dollar in foreign exchange markets. I will deal basically with three issues:

First, the relationship between exchange rates and interest rates;

Second, I will examine whether there is a conflict between policies aimed at reducing inflation and policies aimed at strengthening the external value of the dollar;

And, third, I will examine the notion of "excessive fluctuations of exchange rates," a term that was used in the letter of invitation, and the implied policy implications.

To set the stage for the analysis, it is useful to pose the following question: Is a high interest rate likely to strengthen or weaken the dollar? The intuitive and the standard textbook answer is that a high rate of interest is likely to strengthen the dollar. The explanations are numerous. For example, a high interest rate will attract foreign capital, will induce a surplus in the capital account, and will therefore appreciate the dollar.

Likewise, high interest rates will lower spending and improve the balance of trade, which in turn will appreciate the dollar.

And there are various other explanations, the bottom line of which is the conclusion that a high interest rate is good for the dollar. In practice, however, these predictions have not been in accord with the broad effects. Over the recent period, the rise in the rate of interest in the United States—relative to the foreign rate of interest—has been associated with a rise in the exchange rate; namely, with the depreciation of the U.S. dollar.

This fact is illustrated in figure 1 of my prepared statement. The same broad facts emerge when one examines the circumstances in a cross-section of countries. Countries with relatively low rates of interest—Germany and Switzerland—are also countries with relatively strong currencies. Countries with relatively high rates of interest—Canada and Italy—are also those countries which are typically associated with weak currencies.

The explanation is straightforward: During an inflationary environment, the primary causes for variations in interest rates are variations in inflationary expectations, and a relatively rapid rise in prices is associated with a high nominal rate of interest, as well as with a depreciating currency. In an inflationary environment, a rise in nominal rate of interest may just compensate for the erosion of the purchasing power, without providing for any higher real return.

Under these circumstances, a rise in the U.S. rate of interest need not attract foreign investment in dollar-denominated securities. The vast amount of empirical evidence about the so-called covered interest arbitrage indicates that international capital markets are rather sophisticated. Consequently, higher nominal rates of interest are associated with forward discounts on the currency in foreign exchange markets, without necessarily raising real yields, and therefore without necessarily attracting foreign capital.

All of this illustrates again the danger which arises from viewing rates of interest as the relevant indicator for determining whether money is easy or tight during inflationary periods. It is vital to draw the distinction between nominal and real rates of interest, and it is essential to recognize how unreliable interest rates are as an indicator.

Table 1 in my prepared statement demonstrates with the aid of econometric analysis, that during the recent period of floating rates, the association between the relevant interest rate differential and the exchange rates have been along the lines that I have indicated; namely, higher interest rates have been associated with weak rather than strong currencies.

In the foregoing discussion, I spoke about the link between inflation, nominal interest rates, and the value of the dollar. Thus, I linked the internal value of the dollar with the external one. The recognition of this link is pertinent for the design of policy. An excessive growth of the supply of dollars relative to the demand for dollars for a given behavior of foreign monetary aggregates reduces the value of the dollar in terms of domestic goods, as reflected by the inflation rate, as well as in terms of foreign goods and money, as reflected by the deterioration of the dollar in foreign exchange markets.

The policy implication is obvious. If it all started from excessive monetary growth, we know what to do about it. Moreover, since the high inflation rate and the high rate of depreciation of the dollar are both symptoms of the same fundamental cause, there should be no conflict between policies aimed at lowering domestic inflation and policies which are aimed at halting the external depreciation of the dollar.

Very few economists recommend fighting inflation by pegging the price level through direct intervention in commodity markets. Quite similar arguments, even though not identical, could be made against fighting the external depreciation of the dollar by pegging the exchange rates. Both dimensions of the deteriorating dollar are reflections of macroeconomic policies, and both can and should be handled with the aid of macroeconomic policies.

It is imperative to recognize that prices and exchange rates are manifestations of policies, rather than tools that should be manipulated as instruments of policies. For this reason, as well as for the unreliability of interest rates as monetary indicators, I come strongly in favor of strategy 2 (as outlined by the letter of invitation) which shifts the weight away from interest rates and toward establishment of a longrun disinflationary monetary growth path, which is at the heart of H.R. 5476 as introduced by Chairman Neal.

I should also note that a key difference between strategy 1 and strategy 2 is not that the first is attempting to halt the deterioration of the dollar while the second is attempting to fight inflation. That is not the difference. The key difference is that the first goes back to manipulating interest rates, while the second goes toward establishing a stable path of monetary growth.

I have indicated already before that once you fight the deterioration of the dollar in the right way, you have fought inflation and conversely. This perspective also indicates that there must be a close coordination between the domestic desk of the Federal Reserve Board and the external desk. The reason is that open market operations are associated with purchase and sales of dollars for securities, while

foreign exchange interventions are associated with the purchase and sales of dollars, this time for foreign exchange. But fundamentally, both interventions mean a change in the supply of dollars relative to the demand for dollars, and consequently it is imperative that both policies be coordinated.

I would like to turn now to another part of strategy 1, according to which—and I quote:

Simultaneously, the Federal Reserve and the Treasury would intervene vigorously in foreign exchange markets, in cooperation with other central banks, so to combat excessive fluctuations in exchange rates that might arise from speculation against the dollar, even in the face of high interest rates.

In the first place as I have indicated above, the concept and definition of intervention is extremely vague, because, in a fundamental sense, monetary policy, which alters the supply of dollars, and foreign exchange intervention, which alters the supply of dollars, have a lot in common.

Second and more fundamentally, the notion of excessive fluctuations needs to be clarified. Perhaps the simplest measure of fluctuations of exchange rates is the average percentage change over an interval of time. I would like to turn you attention to table 2 in my prepared statement, which reports the average monthly percentage change for the exchange rate between the U.S. dollar and the U.K. pound, the French franc, and the DM over the period June 1973 through February 1979. In all cases, the average absolute change exceeded 2 percent per month.

In comparison, the average absolute monthly percentage change of wholesale and consumer price indexes and of the ratios of national price levels were only about half that of exchange rates. These facts are also illustrated in figures 2-4 of my prepared statement.

In assessing whether these exchange rate fluctuations have been excessive, it is important to note that the period since 1973 witnessed great turbulence in the world economy and great uncertainty about the future course of economic events. In this environment all prices, not only exchange rates, have shown large fluctuations. Indeed, while exchange rate changes have been large in comparison with price levels, they have been considerably smaller than changes in the price of other assets, like gold and many other commodities and common stocks, as indicated in table 2.

Not all fluctuations have to be stopped. A relevant question, therefore, is: How can Government policy be managed to reduce costly and undesirable turbulence in exchange rate markets? It is clear that as a technical matter there is no problem of eliminating all turbulence in foreign exchange markets. You can always fix the rate.

But obviously, when you fix the rates you shift the burden toward another direction. Basically, when you fix an exchange rate, you sacrifice control over the money supply since the latter is becoming an endogenous variable that is used in order to fix the rate. Therefore, the alternatives are not whether one does or does not like turbulence in exchange rates, but rather, whether one likes turbulence in exchange rates or turbulence in the money supply. Those are the real alternatives. And I would claim that to a large extent foreign exchange market turbulence is likely to be much cheaper from the economic viewpoint than turbulence in any other part of the system.

The reason is that foreign exchange markets are designed to accommodate risks. These markets are capable of handling risk by providing the facilities for selling and buying in forward markets. If you interfere in foreign exchange markets and shift this risk to another segment of the economy, like, for example, the labor market, it is clear that in such markets you cannot deal with this risk in an efficient a manner as in the foreign exchange market.

So therefore, I would like to emphasize again that the alternative is not turbulence or not, but rather, turbulence in what.

The way in which Government policy can make a positive contribution to reducing costly and unnecessary turbulence of foreign exchange rates is by reducing high and variable rates of monetary expansion, which, for example, result from misguided attempts to stabilize nominal interest rates. This is especially important because exchange rates are affected not only by current policies, but also by current expectations about future policies. If expectations about future policies are highly sensitive to current policy, then the instability of policy can have a magnified effect on the exchange rates, as it had in the past.

And in this case, that is where the cost starts to come up. If, as I believe the case to be, the instability and unpredictability of policy, particularly monetary policy, has contributed significantly to the turbulence of exchange rates since 1973, then the turbulence and its associated cost can be reduced by adopting more stable and predictable patterns of Government policy. This is particularly relevant in the context of the United States. The reason is that the United States is unique in its size and the United States is unique in terms of its capital market, and the role of the dollar is unique in the international financial system.

The U.S. dollar has performed the role of world money in serving the functions of invoice currency, intervention currency, storer of value, international reserve asset, and the like. The principal contribution that the U.S. economic policy can make in reducing exchange rate turbulence and achieving greater economic stability is by reducing the level and variability of U.S. inflation, and simultaneously reducing uncertainty about U.S. economic policies.

This would increase the efficiency and enhance the role of the dollar as world money.

Let me close with one final remark concerning Chairman Neal's bill. And I want to approach it from a statement that Chairman Mitchell made in the meeting of November 13. In that meeting Chairman Mitchell asked Mr. Volcker, the Chairman of the Federal Reserve, can we pull it off. My own answer is: Yes, we can, provided we stick to the necessary stable, predictable and disinflationary course of policy. The danger lies in the fact that adjustments of the economic system require more time than the political system is typically willing to provide.

In the past this conflict resulted in stop-go policies with the subsequent accelerated inflation. It is imperative that the Fed continues to follow its new course of policy with vigor and determination. The current turnaround of interest rates merely signals the first signs of success. But the process is long.

Thank you.

[Professor Frenkel's prepared statement follows:]

MONETARY POLICY -- GOALS AND CONDUCT
FOR THE 1980'S: AN ASSESSMENT OF ALTERNATIVE STRATEGIES

Statement by

Jacob A. Frenkel*

before the

Subcommittee on Domestic Monetary Policy and

the Subcommittee on International Trade, Investment
and Monetary Policy of
the Committee on Banking, Finance and Urban Affairs

U.S. House of Representatives

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I am pleased to have the opportunity to present my views during these joint oversight hearings of the subcommittee on Domestic Monetary Policy and the Subcommittee on International Trade, Investment and Monetary Policy of the Committee on Banking, Finance and Urban Affairs, United State House of Representatives on: Monetary Policy -- Goals and Conduct for the 1980's.

My remarks will deal mainly with the implications of the two alternative strategies outlined in Chairmen Mitchell and Neal's letter of invitation on the value of the dollar in foreign exchange markets.

The key features of the two alternative strategies on which I was asked to comment are:

Strategy 1 places top priority on halting the decline in the dollar on the foreign exchange markets, and proposes to do so by keeping money "tight" at home and resisting speculative attacks against the dollar abroad until the decline is halted. Under this strategy, in the months immediately ahead, the Federal Reserve would raise the Federal funds rate substantially above the current level. The purpose would be to raise U.S. short term interest rates and slow U.S. money growth so as to provide incentives for money managers around the world to buy dollar and hold dollar denominated securities. Simultaneously, the Federal Reserve and the Treasury would intervene vigorously on the foreign exchange markets, in cooperation with other central banks, to combat any excessive fluctuations in exchange rates that might arise from speculation against the dollar even in the face of high interest rates. After the dollar had been stabilized, primarily against the German mark, sufficiently long to convince foreign exchange traders that further precipitous declines would not be tolerated, monetary policy could be gradually re-oriented toward the domestic goals of full employment and price level stability.

Strategy 2 would ignore movements in interest rates and concentrate instead on establishing and remaining on or near a long run disinflationary monetary growth target path. (See, for example, the Banking Committee's recommendations of July 27, 1979 (Report No. 96-396) and H.R. 5476, recently introduced by Mr. Neal...).

I will discuss three issues. First, the relationship between interest rates and exchange rates; second, the implications of the fundamental changes (announced on October 6, 1979) in the operating procedures of the

Fed and the question of whether there is a conflict between fighting inflation and strengthening the external value of the dollar; and third, I will deal with the notion of "excessive fluctuations" of exchange rates as well as with the implied policy implications.

I. Interest Rates and Exchange Rates

To set the stage for the analysis it is useful to pose the following question: "Is a high interest rate likely to strengthen or weaken the dollar in the market for foreign exchange?" The popular (and the standard textbook) analysis usually implies that a high rate of interest is likely to strengthen the value of the currency in international markets. The explanations are numerous. For example, one line of reasoning claims that a higher rate of interest attracts foreign capital which induces a surplus in the capital account of the balance of payments and thereby induces an appreciation of the domestic currency. Another variant of the popular approach states that the higher rate of interest lowers spending and thus induces a surplus in the current account of the balance of payments which results in an appreciation of the currency. A third variant of this approach claims that the higher rate of interest implies (via the interest parity theory) a higher forward premium on foreign exchange and to the extent that at a given point in time the forward exchange rate is predetermined by past history, (an assumption that is clearly rejected by the evidence on the comovements of spot and forward rates), the required rise in the forward premium will be brought about by a lower spot rate (i.e., by an appreciation of the domestic currency). Whatever the route, this approach predicts a negative relationship between the rate of interest and the spot exchange rate (or alternatively, a positive relationship between the rate of interest and the foreign exchange value of the domestic currency).

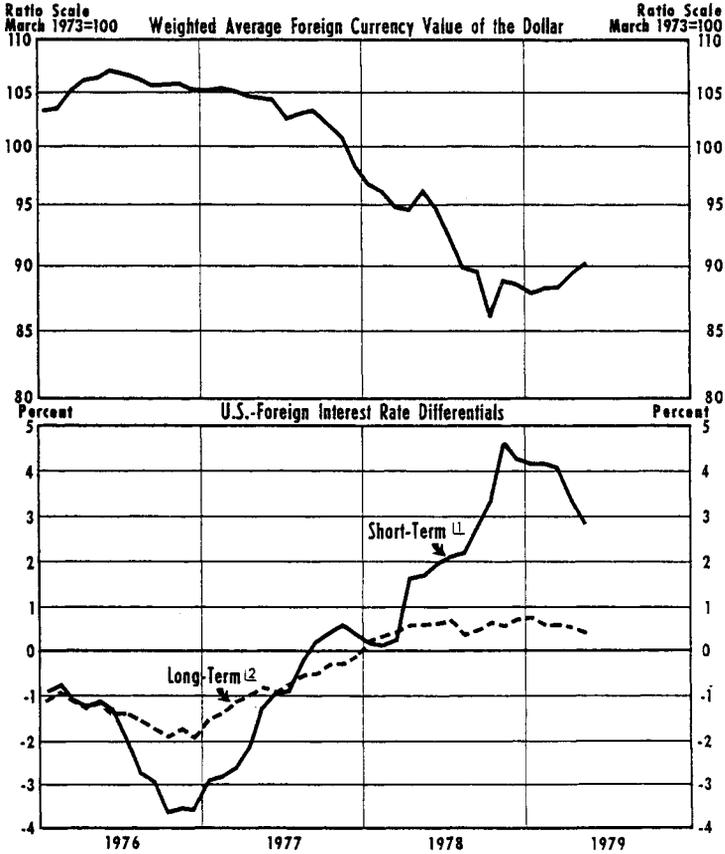
These predictions, however, do not seem to be in accord with the broad facts. Over the recent period the rise in the rate of interest in the U.S. (relative to the foreign rate of interest) has been associated with a rise in the spot exchange rate (i.e., with a depreciation of the dollar). Figure 1 illustrates the point by plotting the foreign exchange value of the U.S. dollar against the interest rate differential. As is evident, in contrast with the popular prediction, the higher (relative) rate of interest in the U.S. has been associated with a higher exchange rate (i.e., with a lower foreign exchange value of the dollar).¹ The same broad facts emerge from an examination of the circumstances prevailing in a cross-section of countries. Generally, countries with relatively low rates of interest (Germany, Switzerland) are having relatively strong currencies while countries with relatively high rates of interest (Canada, Italy) are having relatively weak currencies.

The explanation is straightforward. During an inflationary environment the primary cause for variations in rates of interest are variations in inflationary expectations. In such an environment a relatively rapid rise in prices is associated with high nominal rates of interest as well as with a depreciation of the currency. In an inflationary environment a rise in the nominal rate of interest may just compensate for the erosion of purchasing power without providing for a higher real return. Under these circumstances, a rise in the U.S. rate of interest is not likely to attract investment in dollar denominated securities. Capital markets are much more

¹This Figure is taken from Mudd, Douglas R., "Do U.S. Interest Rates Imply a Stronger Dollar?" Federal Reserve Bank of St. Louis Review, 61, no. 6 (June, 1979): 9-13.

Figure 1

Foreign Exchange Value of the U.S. Dollar and Interest Rate Differentials



Sources: Federal Reserve Statistical Release M.13; Federal Reserve *Bulletin*; International Monetary Fund, *International Financial Statistics*.

1 Secondary market rates for 90-day large certificates of deposit in the United States less the weighted average of foreign three-month money market rates.

2 U.S. long-term government bond yields less the weighted average of foreign long-term government bond yields.

Latest data plotted: May

Source: D. R. Mudd (1979).

sophisticated than what is presumed by some of the simplistic theories. The evidence indicates that higher nominal rates of interest are associated with a forward discount on the currency in foreign exchange markets without necessarily raising real yields and without attracting foreign capital.²

The above discussion provides another illustration of the potential danger which arises from the choice of a wrong monetary indicator. Traditionally, the criterion for assessing whether monetary policy is easy or tight has been the height of the rate of interest: a high interest rate was interpreted as indicating a tight monetary policy while a low interest rate was interpreted as indicating an easy monetary policy. By now it is recognized that during an inflationary period it is vital to draw a distinction between nominal and real rates of interest and, as a result, during inflationary periods the rate of interest may provide a very misleading interpretation of the stance of monetary policy. The same logic also applies with respect to the analysis of the relationship between exchange rates and interest rates.

Recent theoretical developments in the theory of exchange rate determination indicate that exchange rates, like the prices of other assets which are traded in organized markets, are strongly influenced by expectations concerning future course of events. This analytical framework implies that one of the important factors which determine changes of exchange rates are "news" which provide market participants with new information which in turn causes a revision of expectations concerning the future, and alters the current value of the currency. From this perspective it follows that changes in the rate of interest have a relatively strong effect on the exchange

²For further details and analysis see Frenkel, Jacob A., and Levich, Richard M., "Transactions Costs and Interest Arbitrage: Tranquil Versus Turbulent Periods," Journal of Political Economy, 85, no. 6 (December, 1977): 1209-26.

rate if these changes are not anticipated. Table 1 illustrates this fact.³ It demonstrates that during the recent period the various exchange rates have been influenced by the unexpected interest differential and that the association confirmed the prediction: for a given value of the lagged forward rate, an unanticipated rise in interest rate differential was associated with a weaker dollar (i.e., with a higher spot exchange rate, defined as the price of foreign exchange in terms of the U.S. dollar).

II. Is There a Conflict Between Fighting Inflation and Halting the Depreciation of the Dollar?

In the foregoing analysis I discussed the link between inflation, nominal interest rates and the value of the dollar in foreign exchange markets. Thus, I linked the internal value of the dollar with its external value. The recognition of this link is pertinent for the design of policy. An excessive growth of the supply of dollars relative to the demand for dollars (for given behavior of foreign monetary aggregates) reduces the value of the dollar in terms of domestic goods and services (as reflected by the domestic inflation rate) as well as in terms of foreign exchange (as reflected by the decline in the external value of the currency). Since the source of this phenomena is well identified, the policy implications are obvious. Moreover, since the higher inflation rate and the higher rate of depreciation of the dollar are both symptoms of the same fundamental cause, there should be no conflict whatsoever between policies that are aimed at lowering domestic inflation and policies that are aimed at halting the external depreciation of the dollar.

Very few economists recommend fighting inflation by pegging the price level through direct intervention in commodity markets. Similar

³For further details and analysis see Frenkel, Jacob A., "Flexible Exchange Rates in the 1970's" in Stabilization Policies: Lessons from the 1970's and Implications for the 1980's. Center for the Study of American Business at Washington University, St. Louis, Missouri, 1980, forthcoming.

Table 1
Interest Rate Differentials and Exchange Rates
Monthly Data: June 1973 - July 1979
(standard errors in parentheses)

Dependent Variable in S_t	Constant	in F_{t-1}	$(i-i^*)_{t-1}$	$[(i-i^*)_{t-1} - E_{t-1}(i-i^*)_{t-1}]$	s.e.	R ²	D.W.
Dollar/Pound	.032 (.019)	.959 (.025)	.017 (.096)		.027	.95	1.73
	.030 (.017)	.961 (.024)		.388 (.165)	.026	.96	1.77
	.019 (.019)	.968 (.024)	-.155 (.111)	.546 (.199)	.026	.96	1.80
Dollar/Franc	-.335 (.100)	.776 (.067)	.184 (.125)		.029	.79	2.11
	-.301 (.079)	.801 (.051)		.377 (.132)	.028	.81	2.22
	-.231 (.104)	.851 (.070)	.195 (.188)	.540 (.206)	.028	.81	2.32
Dollar/DM	-.070 (.43)	.926 (.045)	.237 (.229)		.032	.93	2.02
	-.037 (.027)	.955 (.032)		.601 (.271)	.031	.94	2.08
	-.040 (.046)	.952 (.047)	.024 (.290)	.583 (.349)	.031	.94	2.08

NOTE: Interest rates are the one-month (annualized) Euromarket rates. The expected interest rate differential $E_{t-1}(i-i^*)_{t-1}$ was computed from a regression of the interest differential on a constant and on lagged values of the differential. $(i-i^*)_{t-1}$ denotes actual interest rate differential where i denotes the rate of interest on securities denominated in U.S. dollars and i^* denotes the rate of interest on securities denominated in foreign currency. $[(i-i^*)_{t-1} - E_{t-1}(i-i^*)_{t-1}]$ denotes the unexpected interest rate differential.

(though not identical) arguments could be made against fighting the external depreciation of the dollar by pegging the exchange rate. Both dimensions of the deteriorating dollar are reflections of macroeconomic policies and both can (and should) be handled with the aid of macroeconomic policies. It is imperative to recognize that prices and exchange rates are the manifestation of policies rather than tools that should be manipulated as instruments of policy. For this reason as well as for the unreliability of interest rates as monetary indicators I come strongly in favor of Strategy 2 which shifts the weight away from interest rates and towards the establishment of a long run disinflationary monetary growth path which is at the heart of H.R. 5476 as introduced by Congressman Neal.

I should also note that the key difference between Strategy 1 and Strategy 2 as outlined in Chairmen Mitchell and Neal's letter of invitation is not that the one attempts to strengthen the dollar while the other attempts to lower inflation. I have already argued that those policies which lower inflation would also strengthen the external value of the dollar and, parenthetically, these policies will also lower nominal rate of interest by reducing inflationary expectations. The key difference between the two strategies is the choice of instrument: Strategy 1 manipulates the federal fund rate while Strategy 2 concentrates on the long term monetary growth path. I believe that the difference between the two is much more fundamental than just being a technical change of the Federal Reserve Operating Procedures.

The perspective that policies which strengthen the domestic value of the dollar are consistent with policies which strengthen the external value of the dollar imply the need for a close coordination between the domestic desk and the external desk at the Fed. Domestic monetary policies like open market operations involve sales (or purchases) of dollars against

securities. External intervention policies like interventions in foreign exchange markets ultimately involve sales (or purchases) of dollars against foreign exchange. Both policies result in changes in the relative supplies of U.S. dollars and both therefore are expected to alter the domestic as well as the external value of the dollar. Under these circumstances it is essential that such policies be closely coordinated.

An additional reason for my preference for Strategy 2 is its concentration on long-term trends rather than placing excessive weight on short-term fluctuations. History has shown time and again that the Fed can exert a much better control of monetary growth over the medium run or over the long term than over a very short period of time. Furthermore, the record indicates that the effects of secular trends are much more predictable and more lasting than those of short term fluctuations. It is reasonable therefore that policies should be guided by these long term considerations as characterized by Strategy 2.

III. Excessive Fluctuations of Exchange Rates and the Policy Implications

I turn now to another part of Strategy 1 according to which "Simultaneously, the Federal Reserve and the Treasury would intervene vigorously on foreign exchange markets, in cooperation with other central banks, to combat excessive fluctuations in exchange rates that might arise from speculation against the dollar even in the face of high interest rates."

In the first place, as I have indicated above, the concept and definition of intervention is somewhat vague since there is a fundamental sense according to which monetary policy may be viewed as an intervention in the determination of exchange rates.

Second, and more fundamentally, the notion of "excessive fluctuations" needs to be clarified.

Perhaps the simplest measure of fluctuations of exchange rates is the average percentage change over some interval of time. Table 2 reports the average monthly percentage change for the exchange rate between the U.S. dollar and the U.K. Pound, the French Franc and the D.M. for the period June 1973-February 1979. In all cases, the average absolute change exceeded two percent per month. In comparison, the average absolute monthly percentage change of wholesale and consumer price indices and of the ratios of national price levels were only about half of that of the exchange rate.

This phenomenon is also illustrated in Figures 2-4 where it is seen that the extent of fluctuation of the dollar/Pound, dollar/Franc and the dollar/D.M. exchange rates far exceeded the corresponding differential inflation rates. Likewise, the extent of the fluctuations of the various exchange rates far exceeded those changes which were predicted by the forward premium on foreign exchange. This last observation indicates that most of the fluctuations were unpredicted. The risk that is associated with the unpredictable fluctuations is presumably a source of social cost. In addition, the recent evolution of exchange rates have not conformed with the predictions of the simple version of the purchasing power parity theory. As illustrated in Figures 5-7, spot and forward exchange rates have moved together (consistent with the hypothesis that both respond to new information in a similar way) but the ratios of national price levels have not moved in conformity with the exchange rates. These deviations from purchasing power parities have resulted in changes in "real" exchange rates which many viewed as being another source of social cost.

In assessing whether these exchange rate fluctuations have been excessive it is important to note that the period since 1973 witnessed great turbulence in the world economy, and great uncertainty about the future.

Table 2
 Mean Absolute Percentage Changes in Prices and Exchange Rates
 Monthly Data: June 1973 - February 1979

Country \ Variable	WPI	COL	Stock Market	Exchange Rate Against the Dollar	COL/COL _{US}
U.S.	.009	.007	.038	-	-
U.K.	.014	.012	.066	.020	.007
France	.011	.008	.054	.020	.003
Germany	.004	.004	.031	.024	.004

Note: All variables represent the absolute values of monthly percentage changes in the data. WPI denotes the wholesale price index and COL denotes the cost of living index. Data on prices and exchange rates are from the IMF tape (May 1979 version). The stock market indices are from Capital International Perspective, monthly issues.

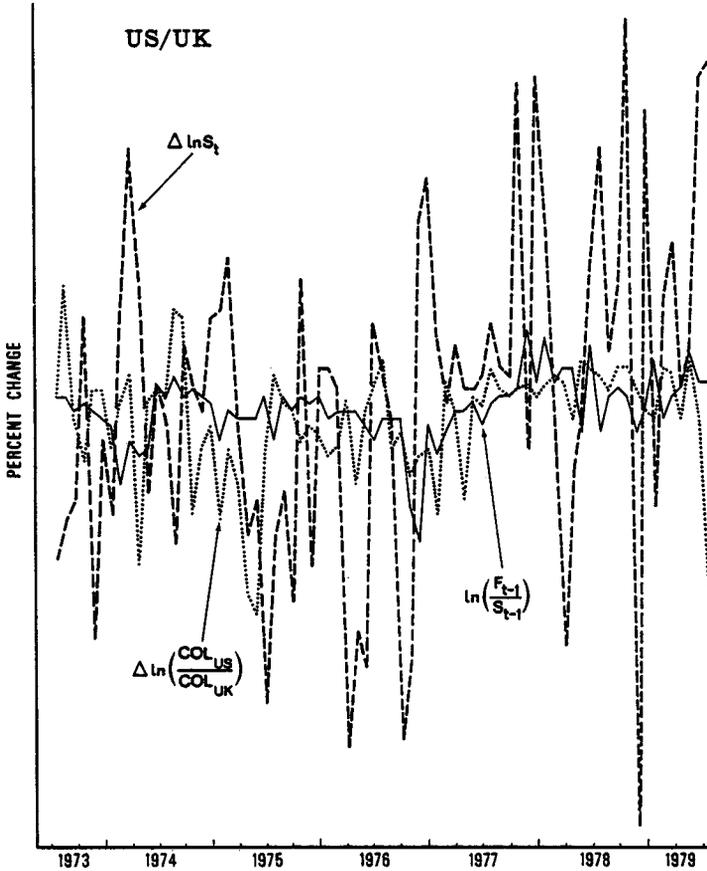


Figure 2: Monthly percentage changes of the U.S./U.K. consumer price indices [$\Delta \ln \left(\frac{COL_{US}}{COL_{UK}} \right)$], of the \$/£ exchange rate, ($\Delta \ln S_t$), and the monthly forward premium; [$\ln \left(\frac{F_{t-1}}{S_{t-1}} \right)$] July 1973 - July 1979.

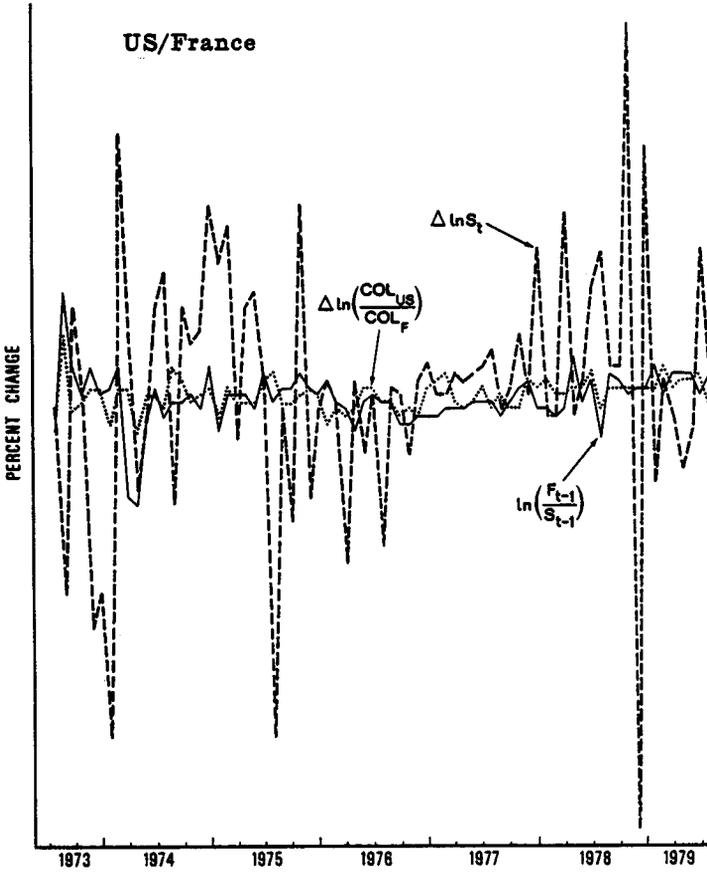


Figure 3: Monthly percentage changes of the U.S./France consumer price indices, $[\Delta \ln \frac{COL_{US}}{COL_F}]$, of the \$/F.Fr. exchange rate, $(\Delta \ln S_t)$, and the monthly forward premium; $[\ln \left(\frac{F_{t-1}}{S_{t-1}} \right)]$ July 1973 - July 1979.

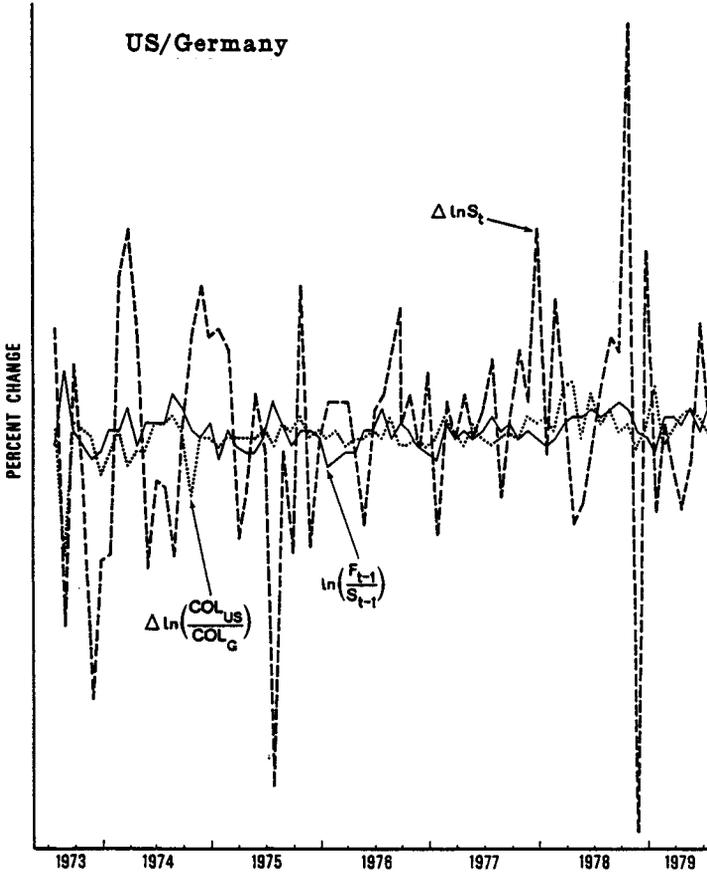


Figure 4: Monthly percentage changes of the U.S./German consumer price indices, $[\Delta(\ln COL_{US}/COL_G)]$, of the \$/DM exchange rate, $(\Delta \ln S_t)$, and the monthly forward premium; $[\ln(F_{t-1}/S_{t-1})]$ July 1973 - July 1979.

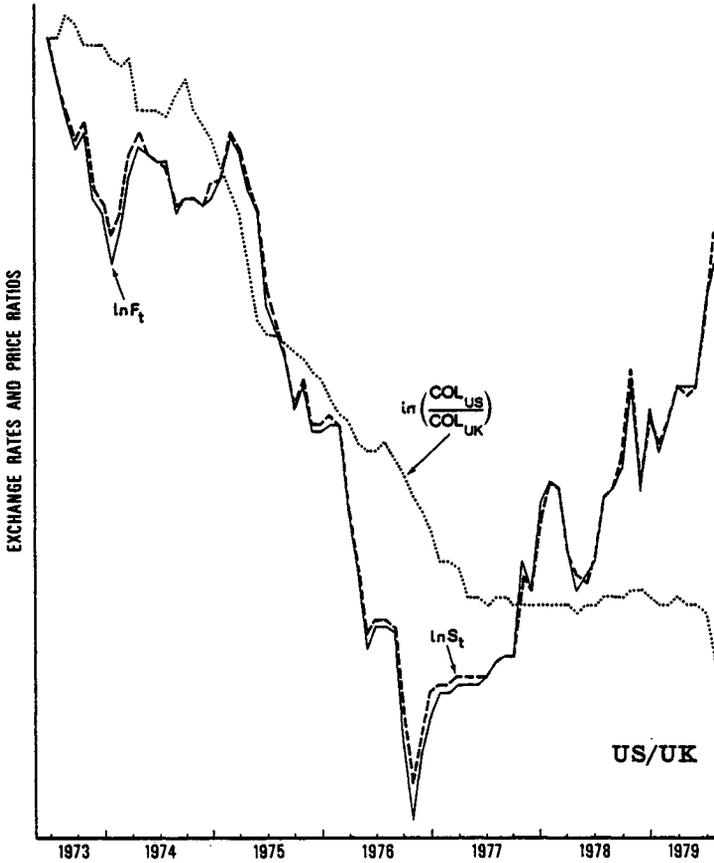


Figure 5: Monthly observations of the Dollar/£ spot ($\ln S_t$) and Forward ($\ln F_t$) Exchange Rates and the Ratio of the U.S./U.K. Cost of Living Indices [$\ln \left(\frac{COL_{US}}{COL_{UK}} \right)$] (scaled to equal the spot exchange rate at the initial month): June 1973 - July 1979.

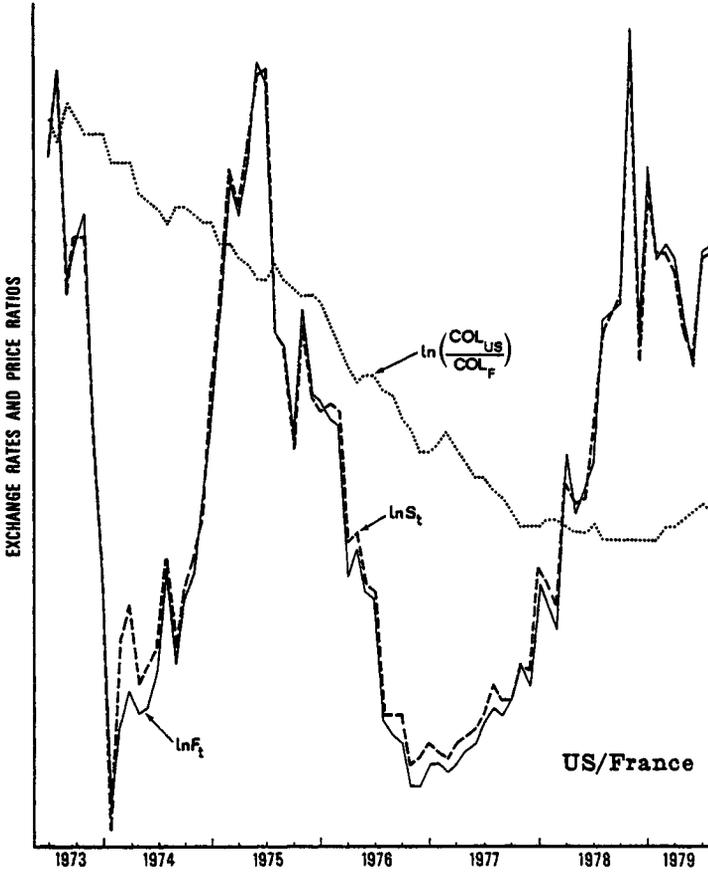


Figure 6: Monthly observations of the Dollar/Fr. spot ($\ln S_t$) and Forward ($\ln F_t$) Exchange Rates and the Ratio of the U.S./French Cost of Living Indices [$\ln(COL_{US}/COL_F)$] (scaled to equal the spot exchange rate at the initial month): June 1973 - July 1979.

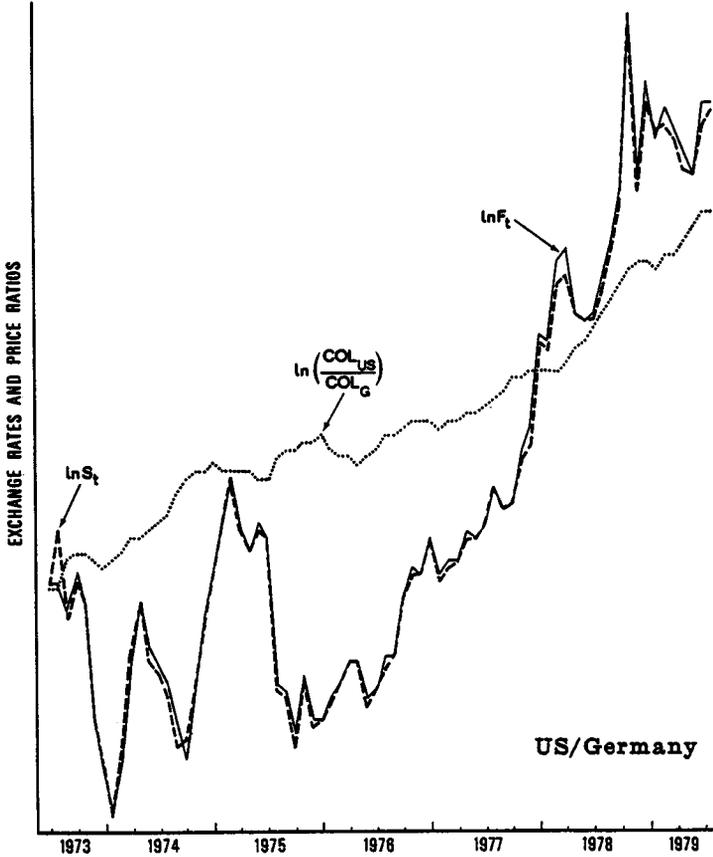


Figure 7: Monthly observations of the Dollar/DM spot ($\ln S_t$) and Forward ($\ln F_t$) Exchange Rates and the Ratio of the U.S./German Cost of Living Indices [$\ln(COL_{US}/COL_G)$ (scaled to equal the spot exchange rate at the initial month)]; June 1973 - July 1979.

course of economic events.⁴ In this environment all asset prices, not only exchange rates, have shown large fluctuations. Indeed, while exchange rate changes have been large in comparison with changes in national price levels, they have been considerably smaller than changes in the prices of other assets like gold, many other commodities and common stocks (see Table 1). Not all fluctuations serve a useless role and not all fluctuations have to be stopped.

A relevant question is how can government policy be managed to reduce costly and undesirable turbulence of exchange rates? It is clear that, as a technical matter policy can reduce exchange rate fluctuations even to the extent of a complete pegging of the rate. It may not, however, be assumed that such policies will automatically eliminate the ultimate cause underlying the fluctuations. Such policies may only transfer the effects of disturbances from the foreign exchange market to somewhere else in the economic system. For example, it is clear that a commitment to peg the rate of exchange implies a loss of control over the supply of money which would have to vary so as to ensure the fixity of the rate. In that case the attempt to reduce variability of exchange rates results in an increased variability of the money supply. There is no presumption that transferring disturbances will reduce their overall impact and lower their social cost. Indeed, since the foreign exchange market is a market in which risk can easily be bought and sold, it may be sensible to concentrate disturbances in this market, rather than transfer them to other markets, such as labor markets, where they cannot be dealt with in as efficient a manner. Thus, the issue is not turbulence or not but turbulence in what.

⁴This and the following three paragraphs draw on Frenkel, Jacob A. and Mussa, Michael L. "Efficiency of Foreign Exchange Markets and Measures of Turbulence" American Economic Review 70, no. 2 (May, 1980) forthcoming.

One exception to this general principle is that government policy can offset disturbances arising from shifts in demands to hold different national monies. The correct policy is to accommodate such demand shifts by offsetting supply shifts, thereby eliminating the need for costly adjustments of exchange rates and national price levels. The difficulty with implementing this policy is in identifying when a shift in money demand has occurred and in adjusting the asset side of the balance sheets of national banking systems.

The way in which government policy can make a positive contribution to reducing costly and unnecessary turbulence of foreign exchange rates is by reducing high and variable rates of monetary expansion which, for example, result from misguided attempts to stabilize nominal interest rates. This is especially important because exchange rates are affected not only by current policy actions, but also by current expectations of future policy. If expectations of future policy are highly sensitive to current policy, then instability of policy can have a magnified effect on exchange rates and on the relative prices of different national outputs, thereby generating significant social costs. If as I believe, the instability and unpredictability of policy, particularly monetary policy, has contributed significantly to the turbulence of exchange rates since 1973, then the turbulence and its associated cost, can be reduced by adopting more stable and predictable patterns of government policy.

The restoration of predictable and stable patterns of policy is at the heart of Congressman Neal's bill. Critics of the bill might argue that it deprives the Fed from an essential degree of freedom and that, as a logical matter, a loss of degrees of freedom will worsen rather than improve the situation. I do not believe that the promoters of the bill would dispute this logical deduction per se, they would argue, however, that what matters is not

the number of degrees of freedom available for policy makers but rather the way by which these degrees of freedom are used (or misused). The strongest case for the bill is not its attractiveness as a matter of principle but rather its attractiveness in comparison with the past record. The past record indicates that excessive flexibility might induce a policy of fine-tuning and might result in unpredictable and unstable patterns of policy which is precisely what the bill is attempting to correct. I am, therefore, supporting the concept of policy which is recommended by H.R. 5476. I am, however, somewhat less convinced that the optimal way to achieve this pattern of policy is through congressional legislation. There are numerous alternative ways (to be sure, each with its own defects) and I believe that these options should be thoroughly discussed and evaluated. Further it seems that the ultimate decision would depend on bureaucratic considerations concerning the most effective legal framework for the conduct of policy. These considerations do not depend exclusively on the principles of economic theory and an economist may not possess the comparative advantage for determining whether or not the best procedure is that of a congressional legislation. If it turns out that legislation is required, I would suggest to incorporate in the bill two additional features. First, a proviso which allows the Fed to accommodate autonomous large changes in the demand for dollars, which would most probably be a very rare phenomenon but the recent Iranian crisis brings up this possibility. Second, and more importantly, it would be useful to specify the proposed short term fiscal remedies to a transitory rise in unemployment which might occur during the initial phases following the implementation of the new monetary rule. The likelihood and the magnitude of such a rise in the unemployment rate (and therefore the likelihood that there will be a need to resort to such a fiscal supplement) will be lower the more credible and the more understood the new policy is.

The general principle of having a stable and predictable pattern of policies is of a special importance in the context of the United States, in view of its size, and in view of the special role of the dollar in the international monetary system. The U.S. dollar has performed the role of "world money" in serving the functions of invoice currency, unit of account, intervention currency, store of value, international reserve asset, and the like. The principal contribution that U.S. economic policy can make in reducing exchange rate turbulence and achieving greater economic stability, is by reducing the level and variability of U.S. inflation and simultaneously reducing uncertainty about U.S. economic policy. This should increase the efficiency and enhance the role of the dollar as "world money."

In his opening statement on November 13, 1979 Chairman Mitchell asked Mr. Paul Volker, the Chairman of the Federal Reserve Board, "Can we pull it off?" My own answer is yes we can, provided we stick to the necessary course of policy. The difficulties lie in the fact that adjustments of the economic system require more time than is typically provided for by the political system. In the past this conflict resulted in stop-and-go policies with the subsequent accelerated inflation rate. It is imperative that the Federal Reserve continues to follow its new course of policies with vigor and determination. The current turn-around of interest rates may already signal the first signs of success but, one should be ready for temporary setbacks and one should realize that the process is long.

Chairman MITCHELL. Thank you very much, Professor Frenkel and Professor Fand. I must say that we very often have hearings and in each of the hearings I, as one member, always learn a lot. But your testimony, both of you, has been most instructive to me, it really has. And I think I have learned some things, or at least looked at some areas that I had not looked at before, nor learned about before. That is one of the blessings of being a Member of Congress. We actually gain some very significant insights from witnesses who appear before us.

Thank you, gentlemen.

Chairman Neal, do you want to lead off?

Chairman NEAL. Mr. Chairman, you have been overly generous with the time.

Chairman MITCHELL. Let me just advise what this little colloquy is about. I told Chairman Neal, I remember the years that I sat down there on that lower bench, never getting a chance to raise a question. And I said, once I became chairman, I would always make every attempt to make sure that every member of the committee had a chance to raise questions before the Chair raised questions.

Chairman NEAL. Well, I thank the chairman.

I believe you were both in the audience earlier when I raised—I made the comment that I think there was no single thing that would be more effective in bringing down the rate of inflation and bringing down interest rates, stabilizing the value of the dollar and increasing productivity, increasing employment, than the adoption by the Federal Reserve of a policy of slowly bringing down the rate of growth in the money supply until it reached the rate of growth in the economy, and leaving it there.

And I would just like, for the record, for you all to give me a yes or no answer as to whether you find yourselves in agreement or not with that statement.

Professor FAND. Yes, and I would add that I think the monetary credibility, once established, would then benefit from stabilizing expectations. Thus, there is an additional benefit there.

Chairman NEAL. Yes, sir, I agree with that also. In other words, the point you are making is that if we could get a firm announcement of that policy, not only the implementation of that policy, but an announcement now or as soon as possible, then you would see the benefits of that policy begin to take effect much sooner than they would otherwise. Is that what you were saying, essentially?

Professor FAND. Once the public really believes it.

Chairman NEAL. Of course, then the question is how we are going to get the public or anyone else to believe it. In my own view, the only way we are going to do that is pass legislation, because—and frankly, I come to that conclusion very reluctantly. But frankly, I think, because we have had inconsistent policies in the past, that no matter what is said—

Professor FAND. I think a point Chairman Mitchell raised, would help it. If you can couple your bill with a program that at some point would help out certain areas of unemployment, I think that may give your bill a little bit more credibility.

Chairman NEAL. Well, I think it would, too. And I want to pursue that with both of you.

Chairman MITCHELL. Would the gentleman yield just a moment?

Chairman NEAL. Yes.

Chairman MITCHELL. I want to take this opportunity to say that this is why I am having difficulty with the way the legislation that we passed, the Humphrey-Hawkins full employment bill, is being implemented. I think there is a great deal of movement to meet the requirements of that legislation on the one side with reference to inflation; but there is an absence of any kind of movement to meet the employment goals. And I too would urge that my colleague take another look at his bill, because I think if you don't put in that kind of proviso, we are merely extending the wrongdoings that we are presently engaged in vis a vis the Humphrey-Hawkins full employment legislation.

Thank you for yielding to me.

Chairman NEAL. For the record, I would just like to get a response from Professor Frenkel.

Professor FRENKEL. Well, my answer about the inflation rate is yes. About the interest rate, yes. Unemployment rate, yes. Namely, following the course of policies that you have suggested would indeed lower all of them.

As far as the exchange rate, I believe that the outcome is somewhat less clear, because it takes two to tango. If the United States carries a disinflationary policy without a change in foreign policies, the answer is yes, namely, the dollar will be strengthened in foreign exchange markets. However, to the extent that foreign policies become even more disinflationary the U.S. dollar may depreciate.

However, it is important to place it in the right perspective of orders of importance: I would argue that if we pursue the policy that is capable of lowering the inflation rate, lowering the interest rate, lowering the unemployment rate, then I wouldn't care much about a situation in which the external value of the U.S. dollar fluctuates due to foreign policies which are unstable, because that is the nice trick about having flexible exchange rates: It provides a partial insulation from foreign misguided monetary policies.

So the policy guidelines should insure that we do not conduct the monetary policy that punishes us, but we want to have the exchange rate system that protects us from foreign misguided policy.

Chairman NEAL. I would like to just for a moment pursue what I imagine would be the worst case kind of situation that this economy might find itself in, I am not suggesting that we will, and I am certainly hoping we won't. But let's take what I imagine would be the worst case, which would be a wartime economy. If we found ourselves in a situation as we were in 1941, for example, when we had to make an all-out effort, an all-out military effort, would that, in either of your opinions, be reason to essentially change this prescription for monetary policy?

Professor FAND. Offhand, I don't see why. In other words, you still have a lot of power in the budget. You are trying to mobilize the economy in a war effort. Congress can do quite a bit there. I don't see why a higher rate of monetary growth would aid the war effort.

Chairman NEAL. That would be my own view, also. And the reason I raise the worst case is because, in studying it and looking at the various alternatives, I can't find anywhere, even in the worst case, any reason for deviating very much from this policy, and that is really

the kind of question—and I am not trying to get into the question of war or peace, but I am really trying to use that as an example of the worst case.

Professor FRENKEL. I basically agree with this line. Let me translate, however, the question from the situation of war and peace to a somewhat different situation, namely, should we allow for political crises of one form or another—a war is one of them—to guide the course of our macroeconomic policies? Now, once you put it in that way, the answer becomes so much clearer, and we don't have to speak about being a patriot or not. As a general rule, economic policy should be designed so as to maximize the size of the pie, and the political system may influence the distribution of the pie.

Let me, if I may, refer to your previous question about legislation.

I am much more comfortable with the answer to two of the following three questions, and I have some doubts about the answer to the third.

The first question is where do we want to go? And here I think it is clear that we want to have low unemployment, low inflation, lower interest rate, stability, and all of that.

The second question is what are the implications of following the line of policies that you suggest?

And here, again, my answer is very positive. They are consistent with where we want to go.

The third question is, how do we want to go there? And I will be honest with you by saying that I am not sure that the advice that an economist can give on that question is the advice that you necessarily need to seek because we are really asking now a bureaucratic administrative question about how to insure that some guidelines are being followed.

And the question is whether it has to be legislation or not.

I am not sure that I, as an economist, have a comparative advantage in this matter. I can say, however, that the mere fact that we discussed it here, the mere fact that the proposed bill comes to the public domain, the mere fact that this bill is discussed, I am sure that whether it passes or not, will have had its positive results.

And for this, I fully applaud your proposals.

Professor FAND. Can I add one comment? I have no doubt that if your bill passed and if the Fed followed that policy, after about a year or so, everything would work out very well on all the crucial variables. But I think the first year could be difficult. That is the problem. If we could somehow do things or put things in to take the fears away from other people about that first year—and I think that the area that would give people the greatest fear is unemployment.

Chairman NEAL. I quite agree. And this is the most legitimate concern of Chairman Mitchell, and one that I share. And then, and that is the question I wanted to pursue, what would be your advice?

My own preference would be for specifically targeted programs for those that suffer because of this policy and there will certainly be some. And we are talking about unemployment and probably mostly among minorities and women, as Ms. Oakar said, who always seem to suffer the worst.

Professor FAND. I would like to make a comment. I am no expert on suffering, but I do notice certain things. In Michigan, I notice, for example, that some people suffer in style. When they are unemployed, they get 95 percent, or even more of their pay. Some may go

to Florida, even though they are unemployed. There are other people that suffer in misery.

In other words, I think if you are talking about minorities and so on, they may not get a job and they will not receive unemployment compensation. I think it would be very good if we could figure out a way to alleviate the real suffering.

Chairman NEAL. I quite agree with that. Thank you, Mr. Chairman.

Professor FRENKEL. May I refer to a related issue?

I think that there is an important point to notice, that monetary policy matters, usually when money is out of order, because when money is in order, we know that money just serves as a veil.

Chairman NEAL. I didn't understand that.

Professor FRENKEL. You see, it is a rather subtle point. We know that, basically, money is just a veil covering the real transactions.

When does monetary policy matter? When can you, by changing the money supply, affect unemployment rather than just raising prices or lowering prices?

It is only when monetary policy is unexpected or when it is not fully understood. Whenever it is very variable and unstable—in short, when money is out of order.

So I think it is extremely important to notice, and this is in reference to Chairman Mitchell's question of the morning—what is the likely effect of an announcement, a clear announcement of a given monetary policy on unemployment?

The answer to it depends on whether people perceive what is going on or not.

The more they perceive, the more money will just serve as a veil and contractory monetary policy will have less real effect on unemployment, and the less will be the real suffering.

So the clarity and the predictability of policy are extremely important. This implies that the bill which attempts to restore control over the money supply is not motivated by a desire to manipulate money, but rather, a desire to control it so as to insure that it is not manipulated and that thereby it becomes completely unimportant, so it doesn't interfere with the real stuff and it just serves as a veil.

Chairman NEAL. To add stability?

Professor FRENKEL. Yes, indeed.

Chairman NEAL. Confidence and stability. They are the goals.

Thank you, Mr. Chairman.

Chairman MITCHELL. Ms. Oaker?

Ms. OAKER. Thank you, Mr. Chairman.

Mr. Chairman, let me just say about Michigan, I am not from Michigan. I happen to be from Ohio. But I will say that having served on the Unemployment Compensation Commission, that the majority of people who are unemployed do not go off to Florida and so forth.

And so in terms of Michigan's unemployment, among the highest who are hit who are autoworkers happen to be minorities. And I think that that is important to say for the record. And they don't take off to Florida. They would just as soon have their jobs back.

But I do have one quick question for Professor Frenkel or the other gentleman, if he cares to comment.

What would happen if—you know, there is some comment about the possibility—I suppose we are more aware of it because of the

Iranian crisis, but that OPEC and other oil-producing countries may not use the dollar in terms of pricing their assets, which are now mostly priced in terms of dollars.

But what would happen if they do change the type of currency that they use? What would happen to the exchange rates and possibly the value of the dollar?

Have you projected anything?

Professor FRENKEL. Yes. I think the answer to this question is quite clear and the policy implications, I believe, are also relatively clear.

Basically, what you are describing now is a situation where the world demand for dollars declines.

Ms. OAKAR. Right.

Professor FRENKEL. Whether it is a change in OPEC's taste or in my own taste. Whenever there is a fall in the demand for dollars, the value of the dollar will decline. In terms of what? In terms of everything.

So we should expect under these circumstances that the value of the dollar will decline in terms of foreign currencies and that the price level at home will be higher.

There are just more dollars now than there were before because previously, they were in hoards and now they are being dumped on the market.

What is the proper policy?

Now here I am coming back to—the exception mentioned by Professor Fand.

An exception to the rigid guidelines of Chairman Neal's bill should precisely be such circumstances in which there is a drastic autonomous shift in the demand for dollars.

How can we make sure that this shift in demand for dollars does not alter exchange rates or prices? And I'm less worried about exchange rates, than prices.

Well, we can reduce the effect of such a shift in demand by adjusting the supply.

Now if there was, indeed, a once and for all shift in the demand for dollars and you had a vacuum cleaner which would just take it all in without letting it go through the economic system, then the Fed should accommodate and absorb it immediately and very little would happen.

If you looked at the statistics the day after, you would find a tremendous decline in the growth rate of money which would probably be in violation with respect to the guidelines prescribed by the bill.

Now that is a unique case for exception to that current version of the bill. However, what we know is that we have to put it into perspective. This bill gains its force from one important point; namely, the demand for money is basically stable—or at least, it is more stable than the supply of money. And therefore, the major fluctuations in the excess demand or supply is due to the supply side.

If the demand for money was unstable, then we should not tie our supply side to a rigid rule; we should accommodate it.

Now I described it as an extreme exception, and I think that those are the extreme exceptions that should and could be dealt with in the context of the bill.

So if I can summarize the two points that were specified in our discussion as useful points to be added to the bill are the specification of the actions to be taken if there was a large rise in the unemployment rate as a result of the transition toward the adaptation of the new monetary rule, and the specification of the monetary response to a clearly announced or clearly shown autonomous changes in demand.

Those are the cases where we may want to deviate from the rigid predetermined monetary growth path.

Ms. OAKAR. But you are in favor of setting the policy first and not relying on projections of what happens in the foreign market. And two, after we have set the policy, then accommodate any extreme changes—I mean, you would be in favor of some de facto policy a la the Neal bill, for example, right?

Professor FRENKEL. Yes; because I agree with empirical force underlying the bill. The demand for money is the much more stable blade of the factors that bring together the demand and the supply.

Ms. OAKAR. Thank you, and thank you, Mr. Chairman.

Chairman MITCHELL. Earlier today Professor Brunner voiced a statement, an opinion, that said if we develop this new macroeconomic policy geared toward slowly slowing money supply growth, that foreign nations and foreign markets would be delighted and would follow suit.

Well, I assume that Germany would with its relatively stable economy, and Switzerland would.

In your opinion, was the statement fairly accurate? Do you think that France—let's deal just with the nations of Western Europe, do you think that they would be happy that we have embarked on a fixed-money-growth policy and would attempt to follow suit in terms of their own monetary policies?

Let's take Italy as a case.

Professor FAND. I don't see why not. I would be inclined to agree, but I really have not thought about it?

Chairman MITCHELL. Professor Frenkel?

Professor FRENKEL. The experience of the 1960's up to the rapid acceleration of the rate of inflation associated with the Vietnam war suggested that when the United States had a stable monetary policy, and when the price level in the United States was not rising as fast, indeed, the Europeans adhered to the rules of the game of the fixed exchange rates and were delighted to use the services of the great banker of the world, that is, the United States.

When did the system break? When the banker did not provide the financial services that it was supposed to.

And at that point the U.S. currency started to deteriorate, the Canadians decided to go to a floating rate, and the Europeans had the stimulus to have the European monetary system; the deteriorating dollar provided stimulus for the search for substitutes.

So I believe that if stability is restored, the dollar will regain its traditional and natural role in the world financial system. I would rather not predict the course of monetary policy in Italy, since we need a bill to insure a stable monetary policy in the United States. I would not guess what would be required in the context of the political framework of Italy.

Chairman MITCHELL. Gentlemen, we face a dilemma here. There are a series of votes that are now coming up based upon the legislation that was discussed yesterday in the House of Representatives.

I am going to reluctantly have to leave you.

Chairman NEAL. Would the chairman yield?

Chairman MITCHELL. I was just about to say others who want to stay can.

Chairman NEAL. I just want to get back to this very basic question of the policy implications regarding unemployment implied by the bill, and this policy of gradually reducing the money supply.

It is a very important point that the chairman has raised and others have raised that this should be accompanied by some fiscal policy to help those that are distressed by the policy.

But my own opinion is that we ought to be very careful about that and trigger it to unemployment caused by the policy because, in fact, my opinion is that you would not see very much unemployment produced as a result of this policy because once it were known, and I wish I might have the attention of the chairman just for a moment, because it is my opinion, my strongly held opinion, that if those who make investment decisions knew that we were serious about fighting inflation, that they would be inclined to make those investment decisions and thus, employ more people.

Chairman MITCHELL. Will the gentleman yield for just a moment?

Chairman NEAL. Yes, Mr. Chairman.

Chairman MITCHELL. I love, admire, and respect my colleague, but this is a brandnew policy on which we are embarking, if we, indeed, embark on it.

And I do not think that any of us can predict what unemployment might be as a result of embarking on this policy.

My only caveat is: Let us be prepared to deal with any increase, whether it be small or large, so that we don't get these enormous pressures, political pressures exerted which would undo that which you seek to do.

Chairman NEAL. Well, I agree with the chairman.

Professor FAND. Can I make a comment on that?

You say we have to distinguish the unemployment that would be generated by any disinflation policy from the unemployment that will be generated by the specific policy in your bill. Most people will not know that difference. In actual fact, you could be right. If your bill is passed, we may, in fact, get less unemployment than we would have received if we didn't pass your bill. But there may still be a rise in unemployment and people are going to blame your bill for that. It was toward that manifestation that I was directing my comments, not with the implication that you are causing more unemployment than there would have been otherwise.

Chairman NEAL. Well, there was that impression left by an earlier witness also. And I just think that this is something that we ought to examine very carefully because I think it would be very hard to produce any hard evidence that this policy, in fact, would increase the unemployment rate.

Professor FRENKEL. It seems that we are facing here a very happy course of affairs as far as political relations within the committee is

concerned. If you, Mr. Neal, are convinced that your bill will not raise unemployment, then you should have no problem of attaching appendixes to the bill specifying how to deal with the unemployment since, presumably, these special provisions would never be used.

Chairman NEAL. I quite agree.

Professor FAND. But you meant that there won't be any additional unemployment that is attributable to your bill. In other words, any disinflation effort will raise unemployment. So we are talking about any additional unemployment due to the implementation of your bill.

Chairman NEAL. Well, the inflation policy that we are following raises unemployment.

Well, I would also like to thank the witnesses very much. Let me say that we welcome your advice at any time and this also goes for the other witnesses—I don't know if we have any left in the hall. But we will continue to pursue this subject for some time to come.

And I want to thank you again, and please feel free to advise us whenever it is convenient for you. We welcome your advice. The hearings now stand adjourned, subject to the call of the Chair.

[Whereupon, at 12:40 p.m., the hearing adjourned.]

[The following letters and statements were received by the subcommittees for inclusion in the record:]

CHASE ECONOMETRIC ASSOCIATES, INC.,
Bala Cynwyd, Pa., November 6, 1979.

HON. PARREN J. MITCHELL,
HON. STEPHEN L. NEAL,

House Committee on Banking, Finance and Urban Affairs, Subcommittee on Domestic Monetary Policy, Washington, D.C.

GENTLEMEN: This letter is in response to your request that I review, with respect to the Fed's October 6, 1979 policy pronouncements, the findings of the study which I directed for the Subcommittee on Domestic Monetary Policy in August 1976 and which was reprinted in the record as part of the Hearings held on January 30, 1978, "Review of Monetary Policy in 1977."

One portion of my study compared the efficiency of using a "reserves" target relative to a federal funds rate target. The results were interesting in that they supported a long held tenet of most "monetarists"—that a reserves target is superior to a federal funds rate target—even though the analysis was based upon a so-called "Keynesian" model. Thus, the conclusion of this study supports the change in targets announced by the Fed in October 6.

Some important caveats to this conclusion should, however, be stressed. First, any attempt to slavishly adhere to a monetary growth or reserves target on a short-term basis, particularly in a quarter dominated by some special circumstance such as unwanted inventory accumulation, was likely to lead to serious economic disruptions. Thus a "modified reserves target" approach such as the one the Fed appears to be following was strongly recommended rather than a single invariant "rule of thumb". Second, exogenous forces such as a massive oil or farm price increase requires a rethinking of the desirable targets on either basis. If the Fed refuses to accommodate, at least partially, inflation caused by shocks of these types, the impacts upon real growth and unemployment would be intolerable.

Third, changes in monetary policy should be made gradually over a period of several years. Any attempt to reduce inflation by sharply reducing monetary growth in a single year would burden the economy by sharply reducing investment and hence productivity. While continuous fluctuations in short-term interest rates such as those caused by the adoption of a reserve target do not slow investment, large fluctuations such as those caused by policy reversals do have a significant impact on long term rates and do adversely affect the nation's inflation/unemployment tradeoff point. In this regard I should note that the timing of the policy change, while perhaps unavoidable, was unfortunate in view of the unsettled nature of the economy and the financial markets last month.

Another major conclusion of my study was that the choice of a level and starting point for any monetary target is at least as important as a decision to move to that target. Thus, substantial amounts of human judgment are required in terms of an analysis of current conditions and forecasts of the economic outlook, just as were required under a funds rate target. The major advantage of a reserves target is that hopefully it will allow additional concentration upon long run goals and the position of the economy in the business cycle and will require less concentration upon short-run fluctuations in interest rates.

Sincerely yours,

LEON W. TAUB,
Vice President.

Statement by Ralph C. Bryant^{*/}
 Senior Fellow
 The Brookings Institution

prepared for the
 Subcommittee on Domestic Monetary Policy
 and the
 Subcommittee on International Trade, Investment, and Monetary Policy
 of the
 Committee on Banking, Finance, and Urban Affairs
 U. S. House of Representatives
 December 4, 1979

It is a privilege to testify before these subcommittees on the goals and operating procedures of American monetary policy. My statement will touch on several issues of current interest, summarizing in each case some broad conclusions that I believe should guide policy decisions and Congressional oversight of them.

Constraints on U. S. Economic Policy from Interdependence

The letter from the subcommittees inviting me to testify indicates concern about the exchange-market value of the dollar and international influences on Federal Reserve decisions. Before I address that concern directly, I want to emphasize that the openness of the U. S. economy inevitably imposes constraints on all aspects of U. S. economic policy.

^{*/} The views expressed here are my own and not necessarily those of the officers, trustees, or other staff members of The Brookings Institution.

In an interdependent world economy, each nation's government can act independently to adjust its own policy instruments but cannot be assured of effective control over its own economy. Indeed, the contrast between de jure sovereignty over national policy instruments and de facto control of national ultimate targets is the central problem confronting policymakers in a single open economy.

As the openness of a nation's economy increases, policy actions of its government have a greater tendency to spill over into the rest of the world, thereby affecting the ability of other nations to achieve their economic objectives. Similarly, policy actions taken by foreign governments and nonpolicy disturbances originating abroad can increasingly influence the ultimate objectives of the home nation's economic policy. Increasing interdependence thus makes national policy decisions more difficult to implement and more uncertain in their consequences; the ability of a nation's policymakers to achieve national objectives is undermined.

The financial aspects of interdependence have especially important consequences for a nation's monetary policy. If financial interdependence is extensive and increasing, a nation's central bank will have increasing difficulties in bringing about conditions in domestic financial markets that diverge greatly from financial conditions in the rest of the world.

Other things being equal, the diminished ability of a nation's policymakers to influence national macroeconomic conditions is unfortunate. Policy autonomy and ability to control the economy, however, are not ends in themselves. And substantial benefits accrue to a nation from economic interdependence -- for example, because of the more efficient allocation of resources brought about by international trade and capital movements and the resulting ability of the

nation's residents to enjoy a higher standard of living. Those benefits may -- at most times probably do -- more than offset the disadvantages associated with diminished controllability.*

The United States may have seemed an exception to these generalizations in earlier decades. For a majority of Americans, the constraints resulting from interdependence were hidden from view and seemed of little direct consequence to them. In fact, even in the 1950s the U. S. economy was significantly dependent on the world economy, and vice versa. In the 1960s and 1970s the degree of openness increased substantially. Most Americans, having had to live through the dramatic consequences of events such as the Arab oil embargo and OPEC price increases in 1973-74 and the Iranian revolution in 1978-79, have probably by now abandoned the illusion of economic insulation from the rest of the world. In any case, the reality is not in doubt; the constraints resulting from interdependence will be a major factor determining the evolution of the American economy in the 1980s.

To conduct a sensible monetary policy for the the United States, the Federal Reserve must form judgments about the autonomy of its policies and about the impacts of international influences on the U. S. economy and must then use those judgments in shaping policy decisions. If policy is formulated on the basis of exaggerated perceptions of the ability to control American target variables, decisions may have consequences quite different from those intended and serious policy mistakes may result.

The international constraints on Federal Reserve policies, while important, are not so dominant as to render monetary policy a hostage to world financial

*/ The conclusions in this and the preceding paragraphs are discussed in detail in part 3 of my forthcoming book, Money and Monetary Policy in Interdependent Nations (Brookings Institution, 1980).

conditions. Interdependence is not so extensive that there is no scope for divergences between economic conditions here and abroad. Nonetheless, the scope for such divergences has been perceptibly narrowing. Increasing financial interdependence has been a main driving force underlying this trend. Inescapably, therefore, the Federal Reserve in the 1980s will have to be more and more concerned with the international aspects of its policy decisions.

Exchange-Rate Variability as an Antidote for Interdependence?

Until recently, the conventional wisdom among economists asserted that the United States and other nations could pursue independent monetary policies if exchange rates were permitted to be perfectly flexible. That proposition is now understood to be analytically incorrect and a misleading guideline for policy decisions. Flexibility of exchange rates cannot insulate the American economy. It is true that the effects of policy actions and nonpolicy disturbances originating abroad tend to spill over less into the United States when dollar exchange rates are flexible than when exchange rates are kept from adjusting. If American policymakers wish to buffer the U. S. economy against most types of foreign policy actions and against many types of disturbances originating in the real sector of foreign economies, they should let the dollar appreciate in response to external stimuli that are expansionary and depreciate in response to those that are contractionary. But the buffering tendencies associated with exchange rate variability do not apply to every type of disturbance originating abroad; for example, they do not apply to autonomous portfolio shifts into or out of dollar assets (by foreigners or Americans). Nor is it always desirable to have the U. S. economy buffered against the rest

of the world. In periods dominated by real-sector disturbances originating in the United States, for example, it is in the selfish interest of the United States to share, to the greatest extent possible, the adverse consequences of those disturbances with the rest of the world.

The idea that exchange rate variability insulates nations' economies is frequently associated with another incorrect idea, that flexible exchange rates unshackle monetary policy from international constraints, freeing the central bank to forget about the balance of payments and to worry merely about domestic economic goals. The injunction to focus attention on the domestic economy can easily be interpreted to mean that economic developments abroad can be ignored; by implication, flexible exchange rates provide complete insulation.

But there is no meaningful sense, no matter how monetary policy may be conducted, in which the Federal Reserve can safely ignore the interdependence of the U. S. economy and the rest of the world. Since the balance of payments is nothing more than an accounting record of the consequences of that interdependence, moreover, there is no meaningful sense in which the Federal Reserve can safely "forget" about the balance of payments. Events abroad always affect the U. S. economy -- sometimes favorably, sometimes unfavorably. The impacts on the U. S. economy of Federal Reserve actions and of events occurring here at home are always conditioned by interdependencies with the rest of the world -- sometimes favorably, sometimes unfavorably. Those international influences can be ignored in the same sense that an airplane pilot flying under conditions of low visibility can look merely at his plane's compass and speedometer and choose to ignore the altimeter. If prudent, however, neither pilots nor policy-makers behave in that manner.

Guidelines for External Monetary Policy

For many years, two views about variability in exchange rates -- and hence about the external aspects of national monetary policy -- have dominated academic and policymaking discussions. The first view, the untrammeled-market position, holds that each nation should pursue appropriate domestic macroeconomic policies and permit currency values to be freely determined in the exchange markets without any intervention by central banks. A pragmatic variant of this view allows for "smoothing" intervention when exchange-market conditions become "disorderly." The other view may be labeled the minimum-variance position. Those holding this view emphasize the uncertainty and disruptions that may be associated with fluctuations in exchange rates and argue that central banks should act to maintain as much exchange-rate stability as possible. Pragmatic variants of this view recognize that "stability" cannot feasibly be taken as synonymous with fixity.

Careful analysis of the policy options open to the United States and to any other individual nation shows that neither of these traditional positions is sensible as a guideline for external monetary policy. The key point is that variability in the dollar's external value facilitates adjustment to some types of economic disturbances and mistaken policy actions but aggravates the adverse consequences of others. It is thus simplistic and wrong to label exchange-rate variability for the dollar as either good or bad. Not even a pragmatic variant of either the minimum-variance position or the untrammeled-market position can possibly be the appropriate policy for coping with all types of economic situations. American policymakers are better off

with an eclectic approach.*[/]

It also follows from the same analysis that it is inappropriate to regard either the absence or the presence of variability in the dollar's external value as a goal of Federal Reserve and Treasury policy. Neither the United States nor other nations have to make the artificial choice between fixed and flexible exchange rates, and should not make it. The sensible strategy for the United States, acting cooperatively with other nations, requires avoidance of a pegging of dollar exchange rates against other major currencies and avoidance of a pegging of the U. S. external reserve position. Both exchange rates and the U. S. external reserve position should be capable of substantial variability over time, depending on discretionary policy responses to economic developments within the United States and in the rest of the world.

I stress this case in favor of "managed floating" (or, equivalently, "managed fixing") because policy debate about the pros and cons of exchange-market intervention commonly fails to acknowledge the potential superiority (sometimes even the existence) of an eclectic approach. As an example of the tendency to polarize the choices, consider the letter inviting us to testify in these hearings. It identifies two alternative strategies: strategy 1 would place "top priority on halting the decline in the value of the dollar," while strategy 2 would "concentrate on establishing and remaining on or near a long run disinflationary monetary growth target path." By implication, so as to be sure of achieving the target path for the money stock, the Federal Reserve under strategy 2 would not engage in exchange-market intervention (except perhaps transitorily in cases of disorderly market conditions).

*/ The conclusions in this and the preceding section are drawn from the analysis in part 5 of my forthcoming book Money and Monetary Policy in Interdependent Nations.

The choice between those two strategies is portrayed as an either-or matter. But for the reasons I have summarized, neither strategy is attractive as a guideline for the international aspects of Federal Reserve policy. American economic objectives have a better chance of being achieved if the Federal Reserve follows a discretionary differentiated approach, trying to tailor exchange-market intervention to current and prospective circumstances affecting the domestic economy and the global economy.

Guidelines for Domestic Monetary Policy

Appropriate guidelines for the domestic aspects of monetary policy are similar to those I have just summarized for the external aspects. In particular, any simplified strategy that requires the Federal Reserve to focus exclusively on a "price" variable (an interest rate) or exclusively on a "quantity" variable (a financial aggregate) cannot be appropriate in all circumstances.

Consider the issue of which variable the Federal Reserve should use as the main instrument in its operating procedures. For example, does it make a great deal of difference whether the Federal Reserve selects the interest rate on Federal Funds or the quantity of unborrowed bank reserves as its day-to-day operating instrument?

The choice of the main instrument can be an important matter if the instrument, once chosen, is "pegged" at a particular setting for a lengthy period. Especially troublesome problems can arise when an interest-rate instrument is pegged or changed excessively sluggishly (as monetarist economists, correctly, have long pointed out); when nonpolicy disturbances occur in the real sectors of the economy, monetary policy can then have

procyclical rather than anticyclical influences on the economy. But there are also circumstances (for example, autonomous shifts in the demand for financial assets) when it is definitely incorrect to peg a quantity instrument. Just as with variability in exchange rates, there are some occasions when variability in interest rates is appropriate and other occasions when it is not.

However, the choice of the main instrument of monetary policy need not be an important issue. If the Federal Reserve discretionarily adjusts the setting on its instrument fairly promptly to developments in the economy, either an interest rate or a financial aggregate can be used with roughly similar results. Nothing in economic analysis argues persuasively that a quantity instrument is inherently superior to an interest-rate instrument, or vice versa.

An exclusive concentration on a quantity or an interest rate becomes still more problematic if the Federal Reserve tries to conduct monetary policy with an intermediate-target strategy. The term "intermediate variable" refers to all variables in the economy that are not policy instruments or ultimate targets. The money stock is an example of an intermediate variable and the one most commonly selected as the pivot in an intermediate-target strategy. Intermediate variables are not pursued in their own right as final goals of policy; and although they can, like ultimate targets, be influenced by the instruments of the Federal Reserve, they cannot be controlled precisely.

An intermediate-target strategy focused on the money stock decomposes the complete decision problem facing the Federal Reserve into two subordinate

problems, with decisions at the two levels made separately and sequentially. The upper-level decision in such a strategy involves reasoning backward from desired time paths for the ultimate targets to a target path for the money stock. The lower-level decision takes the upper-level target path for money as given and determines time paths for the instrument settings designed to keep the actual money stock tracking as closely as possible along its target path.

An intermediate-target strategy presupposes different periodicities of decisionmaking for the two levels. Upper-level specifications of the target path for money are revised only periodically (for example, once a quarter or once every six months); but lower-level decisions are revised more or less continuously -- every day or every week -- in response to observed discrepancies between the actual money stock and its target path. A given upper-level specification of the target path for the money stock thus becomes a surrogate for the ultimate objectives and is the day-by-day operating objective of lower-level policy actions.

But why, it should be asked, is there a need to decompose the overall decision problem into two stages? What justifies the differences between the upper-level and lower-level periodicities of decisionmaking? An obvious alternative is to derive preferred time paths for policy instruments from the best feasible paths of ultimate target variables in a single-stage integrated decision (for short, "discretionary instrument adaptation") rather than interposing a two-stage process that pivots on an intermediate surrogate target.

Four types of justification for the two-stage characteristics of a money strategy are conceivable. They assert that a money strategy (1) makes more

efficient use of the flow of new information about the economy, (2) copes more successfully with policymakers' uncertainty about how the economy functions, (3) takes better advantage of game-theoretic, expectational interactions between policymakers and the private sector, and (4) provides better insulation for monetary policy from the political process and from human error.

It is not feasible to include an assessment of these rationales here, even in summary form. But it can be shown that each of the justifications is analytically inadequate. Indeed, the first two are flatly wrong; a money strategy is demonstrably less efficient in processing new data about the economy and less successful in coping with uncertainty than a single-stage strategy of discretionary instrument adaptation.^{*/}

Conducting monetary policy with a two-stage money strategy is an inferior approach even when the behavioral relationships underlying the demand for and supply of money are reasonably well behaved. But in periods when innovations in the financial sector are numerous and quantitatively important, that approach is especially problematic. The last few years, of course, have been a period of rapid innovation; a partial list of major developments includes NOW accounts, money-market mutual funds, ATS accounts at commercial banks, six-month money-market CDs at thrift institutions, security repurchase agreements, and more extensive use of Eurodollar borrowings.

^{*/} All of the possible justifications for a two-stage money strategy are analyzed and rejected in Money and Monetary Policy in Interdependent Nations, part 4.

I have identified two issues in these observations about the domestic operating procedures of the Federal Reserve. To sum up my conclusions, one of the issues -- the question of a two-stage versus a single-stage decision procedure -- really ought to be a non-issue; when examined closely, the case for a two-stage money strategy does not stand up to careful analysis. The other issue -- instrument choice -- can only be a major issue if the Federal Reserve is prone to pegging its instrument settings or to adjusting them excessively slowly.

Many economists seem to believe that the Federal Reserve's operating procedures are fundamentally important. They pose the issues in terms of money versus interest rates, and monetarism versus Keynesianism. But in my view, that way of characterizing the issues is overblown and unhelpful.

Monetarists who argue against stabilizing interest rates are right -- some of the time. Keynesians who argue against stabilizing financial quantities are right -- some of the time. Again, however, the key point is that neither a price-stabilization nor a quantity-stabilization presumption is the appropriate guideline for domestic monetary policy in all circumstances.

Awkward though the truth may be, no good reason exists for the Federal Reserve to emphasize quantities instead of prices (interest rates), or prices instead of quantities. As operas require a libretto and a score, a sensible approach to national monetary policy requires an integrated perception of both prices and quantities, combined with a discretionary differentiation of decisions in accordance with the current and prospective circumstances of the national economy.

Ultimate Goals: The Real Business of Congressional Oversight

I have thus far commented mainly on the operating procedures with which the Federal Reserve conducts monetary policy. Although important for Federal Reserve decisions from day to day, those procedures are not the aspects of monetary policy that merit the greatest attention of the Congress. Indeed, in my view, Congressional oversight of monetary policy -- of the October 6th decisions of this year, and also more generally since the passage of House Concurrent Resolution 133 -- has devoted excessive emphasis to the Federal Reserve's operating procedures.

Congressional oversight of prospective decisions should normally avoid anticipating or second guessing the Federal Reserve's judgments about which settings on monetary-policy instruments are most likely to attain the path for the economy that is the objective of policy. For retrospective evaluation of policy, some amount of Monday morning quarterbacking is inevitable and desirable. Even for retrospective evaluation, however, the Congress should avoid entrapment in the technical details of operating procedures. What the Congress is preeminently qualified to do, and where it should concentrate its attention, is to help determine the target path for the economy at which the Federal Reserve should be aiming. In effect, Congress should participate actively in identifying the set of trade-offs among the ultimate target variables of policy that seems feasible and, within the set of outcomes regarded as feasible, the choice of that outcome judged to be desirable.

The Federal Reserve tends to be reluctant, except in vague terms, to discuss its ultimate objectives with the Congress and with the public.

The reluctance is partly due to lack of clarity in the Federal Reserve's own internal deliberations about how to trade the ultimate target variables off against one another. Part is also due to an instinct to avoid controversy; if the Federal Reserve has noticeably different views about the goals of policy from those of the Congress and the Administration, there is a better chance of the Fed being able to pursue its different goals if it can avoid discussing them openly.

To an extent that continually surprises me, the Congress has been willing to let the Federal Reserve get away with vague statements of ultimate goals and the trade-offs among them. Almost as if by common consent, the most difficult and most important issues are avoided by both sides.

House Concurrent Resolution 133 was an important step forward in Congressional oversight because it requires the Federal Reserve to testify regularly in defense of its policies. But insofar as the resolution has diverted Congressional and public attention away from the ultimate goals of Federal Reserve policy to intermediate targets for the monetary aggregates, Congressional oversight has been weakened rather than strengthened.

A Crucial Issue: What Target Path for Nominal GNP?

Defining appropriate objectives for U. S. economic policies is in principle a complex exercise, not least because we are committed to a democratic political process. But some of the most important aspects can be simplified by focusing attention on alternative paths for nominal GNP. Nominal GNP is the value of the goods and services, measured at current prices, produced by the (physical and human) resources owned by the nation's residents. If a path for nominal GNP is chosen as a target path for macroeconomic policy, that

choice therefore embodies a combination of preferences about inflation and real growth of the economy.

The actual experience of the U. S. economy in the last several years has been an average annual increase of some 2-1/2 to 3-1/2 percent in real output and an average annual inflation rate of some 8 percent (GNP deflator), and hence an average annual rate of increase of some 12 percent for nominal GNP.

If it were feasible to specify target paths for real growth and inflation independently, virtually everyone in the Federal Reserve, the Administration, and the Congress could probably agree that we should aim for an inflation rate of at most 1 or 2 percent and for an increase in real output at a rate permitted by increases in population and productivity -- say, in the range 2 to 4 percent. Those goals would together imply an annual rate of increase in nominal GNP of no more than 5 to 6 percent. But it is not feasible to specify inflation and growth targets independently. Given the present momentum of inflation in the U. S. economy, it is impossible to attain a path along which nominal GNP grows at a 5 to 6 percent rate with two-thirds or more of the increase representing growth in real output.

Such a path is impossible because of the nature of inflation in our economy. The wage-price process is characterized by a basic inertia. Most wages are set in accordance with complex contracts, sometimes explicit but often only implicit; these contracts respond to economic conditions only with a lag. Many prices are set in accordance with complex customer relationships; they, too, respond sluggishly to changes in economic conditions. Only some prices and only a very few wages are determined in "auction" markets where prices adjust promptly to remove excess demand or excess supply.

The inertia in the price-wage process means that any sudden change in total spending in the economy has a small initial impact on inflation and a correspondingly large initial impact on real output. With the passage of more time, the relative impact on inflation becomes larger. But the important fact is that inflation is a slow-starting phenomenon, and slow in stopping once it gets started.*/

Because of the inertia in the inflationary process, the choice of a path for nominal GNP to be aimed at by the Federal Reserve and the Administration -- so to speak, the choice of a "demand-management" objective -- is probably the most important aspect of choosing goals for macroeconomic policy. In times of low inflation, aiming at too high a path will yield short-run gains in increased output and employment but only at the expense of triggering a stubborn inflationary process that will feed on itself. In times of already rapid inflation, aiming at too precipitous a reduction in the rate of expansion of nominal GNP will have only a small initial payoff in dampening inflation but a large initial impact in forcing the economy into a recession. The most difficult and controversial choices facing policymakers about inflation and unemployment are thus embedded in the demand-management choice of a target path for nominal GNP. Debate about the best feasible path should be a central feature of the dialogue between Congress and the Federal Reserve about the conduct of monetary policy.

*/ These aspects of the nature of inflation have been carefully analyzed by Arthur Okun; see, for example, his "The Invisible Handshake and the Inflationary Process," Acceptance Paper for the Seidman Distinguished Award in Political Economy (September 27, 1979).

The Need for a Diversified Macroeconomic Policy

The analysis of inflation as a slow-starting, slow-stopping process leads to the conclusion that it is even more important than traditionally supposed to avoid overly stimulative monetary and fiscal policies when inflation is quiescent. And that analysis reinforces the traditional conclusion that inflation, once under way, cannot be stopped without a determined policy of slowing the growth of aggregate nominal spending.

But the analysis of the inertia in the inflationary process also highlights the high costs of aggressively trying to slow down an inflation once it has acquired momentum. For today's circumstances, therefore, the most timely inference to be drawn from the analysis is a warning about the inefficiency and riskiness of a policy for fighting inflation that relies solely on demand management.

The macroeconomic policy we need in the United States today is a diversified policy that supplements prudent demand management with "supply-management" measures that reduce costs. The characteristics of such a policy have been presented and widely discussed by, among others, Arthur Okun.*/ The main ingredients on the supply side could include: (1) better management of the government's own cost-raising activities (such as acreage restrictions on agricultural output, changes in import restrictions, and increases in the minimum wage); (2) reductions in those taxes that affect

*/ In addition to Okun's Seidman lecture referenced above, see his April 30, 1979 testimony before the Special Study on Economic Change of the Joint Economic Committee.

private-sector costs directly (for example, payroll taxes and sales taxes); and (3) creation of tax incentives geared to wage and price guidelines for the economy as a whole (so-called tax-based incomes policies).

Supply-management measures of this sort pose many problems, both economic and political.^{*/} As evidenced by the lackluster support so far received, they are exemplars of the complex collective action that democratic polities find it difficult to implement. Yet compared with the inefficiencies and riskiness of relying solely on demand management for influencing the economy, supply-management measures are less problematic and the wisest course of action.

The Near-Term Economic Outlook

As best one can now discern the outlook for the U. S. economy, a significant recession is in the offing during 1980. At one end of the range of forecasters' views, the weakening in output and employment is projected as shallow and short. At the other extreme, some forecasters project a deep recession lasting well into the second half of 1980; the unemployment rate in some of these more pessimistic projections rises well above 8 percent.

The inflation rate is projected to remain high in virtually all forecasts. Even in the forecasts with the deepest recession, the inflation rate falls only modestly during 1980 from the high rates we have experienced in the second half of 1979.

^{*/} See the wide range of views summarized in Arthur M. Okun and George L. Perry (eds.), Curing Chronic Inflation (Brookings Institution, 1978).

Unfortunately, therefore, the near-term outlook is for a sharp decline in the rate of growth of nominal GNP. As suggested by what I have said about the inertia of the inflationary process, I believe it is quite wrong to welcome such a rapid reduction in the pace of nominal demand. Its short-run costs in terms of foregone production and employment much more than outweigh the short-run benefits in reducing inflation with which it is associated. Unless new information drastically alters the outlook, however, a recession of some magnitude is already in the pipeline. The best that can be done at this point is to choose as sensible a policy as possible taking this outlook into account as the starting point.

The unfavorable outlook for the American economy needs to be seen in the light of likely developments in the rest of the world. Economic activity during 1979 had substantial momentum in most of the main European economies and Japan. Current forecasts for the industrial countries, however, envisage more sluggish growth in output during 1980 -- perhaps at half the pace of 1979 -- combined with a somewhat faster rate of inflation. Output growth for the developing nations' economies might better maintain its momentum early in 1980 than in the industrial countries, but their growth could falter later in the year in response to the slowdown in the United States, Europe, and Japan.

The reduction in Iranian oil output and the large increases in oil prices already experienced in 1979 are an important factor contributing to this worldwide outlook for weak growth in output and high rates of inflation. The increases in oil prices raise the general price level and reduce output in the oil-consuming countries (in an analogous way to increases in excise taxes). The current-account payments surpluses of the Middle Eastern OPEC countries

will become even larger in 1980 than in 1979. For a significant number of oil-importing countries whose current-account deficits will correspondingly tend to worsen, the resulting financing problems could be severe.

Because the oil price increases and production cutbacks are a common disturbance buffeting all the oil-importing countries, they have heightened the risks that economic activity in national economies will again become synchronized (as in the 1972-73 world boom and the 1974-75 world recession). Further large oil price increases resulting from the next OPEC meeting on December 17 or any additional political turbulence in the Middle East would heighten these risks of synchronization further. At the moment, the best guess of forecasters in the OECD and the IMF is that the world outside the United States will not experience a recession in 1980-81. But the possibility of such an outcome is markedly greater now than it was six months ago.

Alternative Policies for the American Economy

Given this rather grim outlook, at what medium-run path for the American economy should the Federal Reserve and Administration aim? And what policies should be used to try to attain that path? To oversimplify but without distorting the main elements of the choice, four broad alternatives may be distinguished.

First, policy could rely solely on hawkish demand management. Such a policy would accept the sharp reduction in the growth rate of nominal spending brought about the recession (a fall from a rate of 10-12 percent per year to a rate of, say, 5-7 percent) and would not take stimulative monetary or fiscal action to promote a return to higher rates. The aim would be to wring inflation out of the economy, paying whatever cost of lost output was necessary and hoping for a less sluggish adjustment of wage-price behavior

and inflationary expectations than predicted by the inertia model of inflation. Consistent advocates of this policy would be prepared to persist in the hawkish demand management until inflation slowed down to an acceptable rate.

The second broad alternative, like the first, would rely solely on the traditional instruments of monetary policy and fiscal policy. Unlike the first, however, the stance of policy would be dovish demand management. As soon as incontrovertible evidence of a recession becomes available, advocates of this view would propose expansionary policies that would promise a prompt recovery of output and employment. An effort would be made to avoid excessively expansionary policies, but decisions would nonetheless err on the side of preventing the lost output resulting from a slack economy.

A third alternative would combine wage and price controls with some sort of demand-management stimulus to promote economic recovery. An argument that will often be heard in favor of this alternative during 1980 is the point that controls have a chance of working in times of slack demand whereas there is no hope of their being successful in a buoyant economy. Such a policy may attract increasing support in the short run as the economic situation worsens. But the allocative inefficiencies of direct controls are a decisive disadvantage. In any case, direct controls in the past have been politically unsustainable over a longer run.

The fourth alternative -- the one I believe is least problematic -- may be characterized as owlish demand management combined with determined efforts to implement cost-reducing policies on the supply side. This policy

would aim for a nominal GNP path somewhere in between the hawkish and dovish alternatives, characterized by a rate of growth that would at first rise from the low rate of the recession quarters to, say, 8-11 percent but would then gradually decline thereafter. If the current projections for 1980 begin to materialize, a tax reduction of moderate size is likely to seem appropriate as part of the supporting policies for this path. Such a tax reduction should be framed not only with its demand-management impacts in mind but should also be viewed as an opportunity to institute supply-management policies. Tax reductions for consumers could take the form of cuts in the payroll tax. Business tax cuts, following Okun's suggestion, could link accelerated depreciation allowances to compliance with the wage and price guidelines of the Council on Wage and Price Stability.*

It is not feasible here to argue the case against the first three alternatives nor to develop the brief for the fourth. But I do at least want to stress that the difficult choice among the four is the key macroeconomic decision facing American policymakers, and hence Congressional oversight of Federal Reserve policy, in the coming year.

The Desirability of a Greater Consensus on Goals

In a federal political system with a quasi-independent central bank, a failure to focus debate on the ultimate objectives of policy can permit a significant but largely unacknowledged discrepancy to evolve between the goals of the different parts of the government. To some degree, a discrepancy of this sort may now exist in the United States. Implicitly if not explicitly,

*/ Arthur M. Okun, "The Invisible Handshake and the Inflationary Process," p. 17.

the Federal Reserve may be aiming at a low expansion path for nominal GNP that the Congress will find politically unacceptable if it actually materializes. To put the same point another way, the Federal Reserve may be willing to accept greater risks of a sharp recession and a prolonged period of severe slack than the Congress would be willing to accept if the Congress were to focus on the risks and weigh them carefully.

If this surmise has some validity, the coming year could bring a deterioration in relations between the Congress and the Federal Reserve. If bad progressed to worse, such a deterioration could even lead to a stop-go outcome for macroeconomic policy, including a further twist in the fiscal-monetary mix undermining the incentives for capital formation. Surely the worst of all outcomes for the medium run would be a sizable recession brought about partly by excessively contractionary monetary policy followed by panicky restimulation of the economy through fiscal actions after the recession has already hit bottom (a vigorous reflation under the leadership of the Congress and, possibly, the Administration). In that roller-coaster scenario, the American economy would be subjected to all the high costs of lost output and jobs during the recession; yet little if any longer-run improvement in the inflation outlook might be purchased as a result.

If such a sequence of events occurred, Congress in the shorter run might be able to indulge in the luxury of making the Federal Reserve the scapegoat for the recession. In the medium run, critics of fiscal policy could indulge in the luxury of making the Congress the scapegoat for renewed inflation.

But little would be gained by such efforts to lay the blame for poor macroeconomic policy at someone else's door. It would be far preferable to try

now to narrow any discrepancy in ultimate goals between the Federal Reserve, the Administration, and the Congress. If the governmental actors in the economic policy process could present a reasonably united front to the private sector and the rest of the world, a much better chance would exist of staying on a steady course -- and educating public opinion so that the steady course is a politically sustainable one.



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December 5, 1978

To the participants in the Federal Open-Market Committee:

There cannot be much dispute over the fact that, in the past twenty years, the rate of inflation in this country has shown close conformity to the rate of monetary growth. This conformity is illustrated by the attached diagram, which compares overlapping decade rates of change in prices and in the adjusted monetary base (denoted high-powered money). To reduce the inflation rate, a slowdown in monetary growth is required.

The question is, how to do it? Even a mild slowdown in the monetary growth rate appears likely to cause further increase in interest rates and to increase the danger of a recession. Without any political support from the administration or Congress, the Federal Reserve will be in a very vulnerable position to take the blame for these unpopular results. Yet at the same time the Federal Reserve bears moral responsibility for protecting the value of the dollar both domestically and on international exchanges.

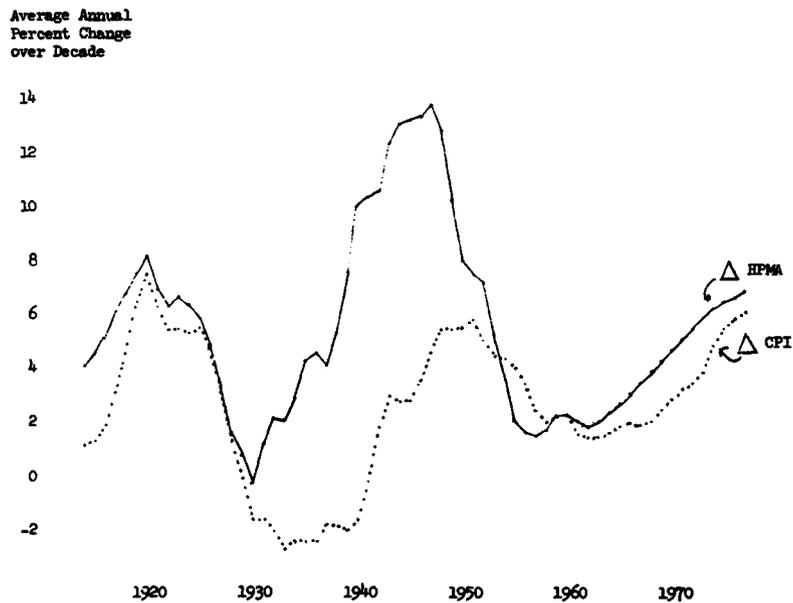
I would like to propose a strategy which I believe can extricate the Federal Reserve from its dilemma. Crucial to it is winning the confidence of the financial community by establishing the credibility of the Federal Reserve. This is possible, in large part, because if the Federal Reserve succeeds in slowing the inflation rate, long-term interest rates will tend to decline, and prices of marketable bonds (and probably prices of common stocks also) will tend to rise. If the financial markets become convinced that rising bond prices are in prospect, investors will have an incentive to begin bidding up bond prices immediately. I believe that with proper management, the Federal Reserve can minimize the transitional rise in interest rates which may attend the initial phase of a monetary slowdown.

The strategy that is proposed is predicated on the assumption that the financial markets already know that the inflation rate and the international decline of the dollar are both responses to an excessive rate of monetary growth, and that excessive monetary growth is the chief reason why nominal interest rates are now at record levels. One need not believe that "rational expectations" permeate the entire world to believe that financial practitioners, whose personal livelihoods are closely connected with understanding these relationships, have been led by experience to such understanding. The editorial position of the Wall Street Journal can be taken as representative.

However, the strategy is also predicated on the distressing fact that the monetary interpretation of inflation and interest rates is probably not accepted by the majority of professional economists in academic positions

Figure 1

Ten-Year Rates of Change in Adjusted High-Powered Money and in Consumer Prices in
the U.S., 1914-1976⁷



Federal Open-Market Committee
 December 1, 1978
 Page 2

and is universally rejected by leaders in the administration, in Congress, and in major private interest groups such as the housing lobby and organized labor. The Federal Reserve must take more responsibility toward promoting a better understanding of the inflation process among such groups, and as much as feasible, among the public in general.

In terms of the actual conduct of monetary policy, the strategy is brief and simple. The first step is to stop increasing the growth rate of the adjusted monetary base. The next step is to announce in advance a time table for a very gradual decrease in that growth rate. On this matter, I have nothing to add to Arthur Burns's remarks which appeared in the Federal Reserve Bulletin, April, 1977, p. 362. The time table can be a gradual one, say at the rate of one point reduction per year over a four-year period. An escape clause could be added, such that scheduled reductions would be suspended if the measured unemployment rate should rise beyond a certain threshold. But it is crucial that a credible time table be articulated in advance and adhered to.

The trick is to carry this off without a disastrous political backlash. The Federal Reserve is not politically strong enough to achieve this without careful preparation. The following strategy is designed chiefly to build Federal Reserve credibility. Without some such strategy, the Federal Reserve's proposed monetary slowdown will not be believed by the people who understand it (the financial community and the international observers) and it will not be understood by political leaders of the general public. The Federal Reserve must undertake to educate public opinion and political leadership. Fortunately, the recent elections provide a handle. In reaction to the inflation, public opinion is now pressing for drastic cuts in public expenditures, and public officials can perhaps avert these if the true cause of the inflation is publicized and addressed.

To prepare the way for gaining credibility, the Federal Reserve should adopt the following measures:

1. Federal Reserve policy should be geared entirely to management of the growth rate of the adjusted monetary base. Current policy procedures are disintegrated by the plethora of monetary aggregates, none of which is truly under direct Federal Reserve control.
2. Since the adjusted monetary base is directly controllable, the Federal Reserve should discontinue using the federal funds interest rate as an intermediate target for policy. Present practice has the undesirable effect of leading people to believe the funds rate is subject to determination by the Federal Reserve.
3. The Federal Reserve system should set its formidable staff of professional economists to work preparing educational materials which set forth in simple, readable style the impressive evidence on the relationship between money and prices. In doing so, the Federal Reserve has to, willing, accept the responsibility for the fact that its policies have been the cause of the inflation. These educational materials need to be addressed to all levels of readership. Academic economists are particularly in need of enlightenment on this count; few of them have ever been willing to look at the historical evidence.

Federal Open-Market Committee
 December 1, 1978
 Page 3

4. To reassure organized labor and the liberal supporters of full employment, the Federal Reserve should develop for the future a rule for the guidance of monetary policy. This rule should avoid responses to recent price level movements. In the long run the rate of increase of prices will tend to be approximately equal to the chosen growth rate of the adjusted monetary base (see diagram). For the short run, variations in the monetary growth rate should be directed toward counteracting variations in the unemployment rate. By making the target monetary growth rate equal to, or proportional to, the measured unemployment rate, the Federal Reserve will achieve a workable degree of economic stabilization and will placate the anti-monetarists (such as Franco Modigliani) who dislike the idea of a rigidly fixed monetary growth rate.
5. In public pronouncements and publications, the Federal Reserve needs to stress the fact that expansionary monetary measures tend to raise, rather than to lower, nominal interest rates. This may be the most crucial element in a prospective educational campaign.

It is crucial that the educational campaign begin immediately, because without it the actual slowdown in the monetary growth rate cannot be safely undertaken. If the country needs to go for a year with a constant rate of growth of the adjusted monetary base, during which time the Federal Reserve formulates and articulates a simple and plausible position (including frank acknowledgement of past mistakes), it will not be too high a price to pay for the prospect of long run inflation control.

If this strategy is successful, the financial community will respond in a few months. The Federal Reserve can take advantage of the fact that corporate stocks at home and the dollar internationally are both undervalued. The mere prospect that further monetary deterioration will be averted will produce a recovery in those markets. Similarly, long-term interest rates could begin to fall and bond prices rise even before the actual slowdown in the monetary growth rate begins.

These altered financial terms will in turn help to protect the economy against recession. The prospect of a diminished inflation rate will make long-term bonds and mortgages extremely attractive to investors; the resulting fall in borrowing costs should cushion the real sectors of the economy against decrease in aggregate demand.

If such a strategy is promptly undertaken, the actual pace of the deceleration can be quite gradual. What is crucial is that some deceleration, however gradual, be undertaken and on the basis of a firm long-term commitment. Equally crucial, however, is the educational task confronting the Federal Reserve. If that task is effectively carried through, informed political leadership and public opinion will become an effective protection against a recurrence of this inflationary experience.

Sincerely,

Paul B. Trescott
 Visiting Professor of Economics

MONETARY POLICY AND INFLATION
IN THE UNITED STATES, 1912-1977

by

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I. Introduction.

In recent years a number of studies have supported the contention that the current inflation can be interpreted as a response to rapid monetary growth (e.g., Selden [1975], Mehra [1978], Barth and Bennett [1975]). This paper compares recent price experience with the patterns observed over the entire period since the formation of the Federal Reserve system. Particular attention is directed to lagged monetary effects and their stability over time. Significant influence from monetary policy to the price level can be observed during most of the period 1912-1977. But there have been significant variations in the magnitude of the monetary impact and in the time-lag patterns. As this study utilizes only annual data, conclusions with respect to time lags are necessarily tentative. Further inquiry using monthly data over the same period is now under way.

II. The Model.

The simple demand for money function,

$$\ln \frac{M_d}{P} = \beta_a + \beta_1 \ln Q - \beta_2 \ln R + u \quad (1)$$

is used as the basis for our study, where Q represents real output, R interest rates, P the price level and u the unobserved disturbance term. The price level is assumed to change in response to a discrepancy between the desired and actual stock of money. Rearranging equation (1) to solve for $\ln P$ and assuming that money demanded is equal to the existing supply, we obtain,

$$\ln P = \delta_0 - \delta_1 \ln Q + \delta_2 \ln R + \delta_3 \ln M + v \quad (2)$$

Because of the strong time component in real output, the price level and nominal money balances (Laidler, [1971]), it is more appropriate to specify

model (2) in terms of first differences, resulting in the model,

$$\begin{aligned} \ln P_t - \ln P_{t-1} = & \delta_4 - \delta_1(\ln Q_t - \ln Q_{t-1}) + \delta_2(\ln R_t - \ln R_{t-1}) \\ & + \delta_3(\ln M_t - \ln M_{t-1}) + W. \end{aligned} \quad (3)$$

(It should be noted that this is equivalent to adding a time trend to model 2 where δ_4 is the coefficient of the time trend). However, estimates using the levels of the data are reported in the appendix.

To minimize the problem of monetary endogeneity, high powered money (currency plus bank reserve deposits) adjusted for the dollar equivalent of changes in legal reserve requirements is used instead of M_1 or M_2 , since HPMA is viewed as a relatively unbiased measure of monetary policy (Brunner and Meltzer, [1964]). In addition, since many authors have shown that money balances have an impact on prices for many years, the monetary variable will be represented by a distributed lag structure. In place of real output, a measure of working-age population (POP) and worker productivity (PROD) are used while the interest rates are measured with the Aaa corporate bond rate since a long term interest rate seems more appropriate using yearly data. Finally, the consumer price index is used as a measure for price. Model 3 as a result can be rewritten as,

$$\begin{aligned} \Delta \ln CPI_t = & \gamma_0 - \gamma_1 \Delta \ln POP_t - \gamma_2 \Delta \ln PROD_t + \gamma_3 \Delta \ln Aaa \\ & + \gamma_4 \Delta \ln HPMA_t + \gamma_5 \Delta \ln HPMA_{t-1} + \dots + \\ & \gamma_{4+l} \Delta \ln HPMA_{t-l} + w_t, \quad t = 1, \dots, n \end{aligned} \quad (4)$$

The disturbance terms w_t will be assumed to satisfy the classical assumptions, although some of these assumptions will be tested.

III. The Statistical Analysis.

III.1 1912-1977 period

Since many recent studies have shown that the current response of

price to money growth takes around four years (DeLeeuw and Gramlich [1969], Andersen and Carlson [1970], Selden [1975], Mehra [1978]), the first task is to examine if this response framework has existed since the inception of the Federal Reserve System. In order to test this initial hypothesis, a number of tests for stability of the regression coefficients over time are used. The first and most straight-forward test uses the "homogeneity statistic," which is a generalization of the well known Chow test (Chow [1960]). The remaining two tests were developed by Brown, Durbin and Evans [1975] and use recursive residuals. These residuals are obtained by estimating the model with the first K (number of exogenous variables in the model) observations and then reestimating the model after adding one additional observation. The string of residuals associated with each additional observation are the recursive residuals. The first statistic involves the cumulative sum of the recursive residuals (hereafter CUSUM) while the second statistic involves the cumulative sum of the squared recursive residuals (hereafter CUSUM SQ). Because there are only $N - K$ recursive residuals, it is imperative that both tests be undertaken using a forward and backward ordering of the observations. Since under the null hypothesis of a stable relationship over the entire time period a backward ordering is as appropriate, although not as intuitively appealing, as a forward ordering, this presents no problem.

In analyzing the period 1912-1977 with model (4) using four lags of high powered money one obtains (t-ratios are in parenthesis),

Eq. 1

$$\begin{aligned} \Delta \ln P_t = & -.0089 + .0568 \Delta \ln \text{POP}_t - .096 \Delta \ln \text{PROD}_t + .3066 \Delta \ln \text{Aaa}_t + \\ & (-.4480) \quad (.0504) \quad (-.5079) \quad (3.8813) \\ & .2993 \Delta \ln \text{HPMA}_{t-1} - .0727 \Delta \ln \text{HPMA}_{t-2} + \\ & (.25255) \quad (-4.678) \quad (2.0744) \\ & .1290 \Delta \ln \text{HPMA}_{t-3} - .0512 \Delta \ln \text{HPMA}_{t-4}, \quad t = 1912, \dots, 1977 \\ & (.8466) \quad (.4434) \\ R^2 = & .4640, \bar{R}^2 = .3888, \hat{\sigma} = .0426, \\ DW = & .9462, F = 6.1681 \end{aligned}$$

In addition to the above summary statistics, the homogeneity statistic for three subsamples of equal size that are mutually exclusive and exhaustive of the entire sample is 2.704. Under the null hypothesis of a homogeneous sample period, this statistic is distributed as F with 18 and 39 degrees of freedom. The sample statistic rejects the null hypothesis at the 1 percent level. This finding of instability is further supported by Brown and Durbin's tests. In using the forward ordering, the CUSUM statistic is .9505 (rejecting homogeneity at the 5% level) and the CUSUM SQ statistic is .2814 (rejecting homogeneity at the 1% level) while the backward ordering yields a CUSUM statistic of .7595 (does not reject homogeneity at the 10% level) and a CUSUM SQ statistic of .3976 (rejects homogeneity at the 1% level).

III.2 Subperiods of Stability.

In trying to identify the periods of stability within the 66 year period under examination, a three stage strategy was employed. First Quandt's Likelihood Ratio Statistic (Quandt [1958, 1960]) was examined

for large negative values (although the distribution of the statistic is unknown, some indication of the changing point between different populations is given by large values of the likelihood ratio). Second, an examination of the plot of the CUSUM SQ residuals normalized at successive time periods is made. In analyzing this plot, periods where a slope change occurs should be noted. After tentatively identifying subperiods of stability with these two stages, the third stage involves an analysis of the end point residuals derived from regression estimates for each subperiod.

Using this strategy, subperiods of relative stability are identified as 1912-1930, 1930-1935, 1936-1958, 1957-1977. Because of the constraint of using yearly data, the short 5 year period 1931-1935 is omitted from the analysis. Since HPMA was rising in 1930-33 while prices were falling, the model is clearly inappropriate for that period.

To analyze each of these subperiods (containing 19, 23 and 21 observations respectively) with models involving a variety of different length lags would severely curtail degrees of freedom. To solve this dilemma, a second degree polynomial (Almon) distributed lag in high powered money is used to represent the HPMA term in model 4). In addition, since no end point restrictions are imposed, the resulting shape is not affected by this often made criticism (Dhrymes [1971], Schmidt and Waud [1973]). In order to determine the proper length of the lag, each period is analyzed using a second degree polynomial with lags ranging between 3 and 9 periods. The minimum squared error criteria was then used to choose the statistically appropriate model (Maddala [1977], p. 359). With relatively weak assumptions this procedure is equivalent to maximum likelihood estimation (see appendix 1). Table 1 compares the error sum of squares of each model and period.

From these results it is apparent that in every case the "likelihood contours" are relatively flat in the area under examination. Asterisks indicate the number of lagged HPMA terms which minimized the error sum of squares in each subperiod: five, for 1912-1930, and eight for both 1936-58 and 1957-77. Estimates on these bases (and closely related ones for comparison) are reported in the following.

III.3 1912-1930.

Estimates of model 4) for 1912-1930 are presented in Table II. Equation 2 contains five lagged HPMA terms, the number which minimized the error sum of squares. Since Equation 2 implies significant HPMA impact back only to $t - 2$, an estimate containing only three lagged HPMA terms is also shown (Equation 3). (A strong case could be made for estimating the model using a geometrical declining weight structure; however, for fear of introducing autocorrelation into our model a Koyck transformation was not performed.) Although the total impact of the monetary variable is similar (1.243 as compared with 1.276), Equation 3 implies significant HPMA impact for only periods t and $t - 1$. However, the stability test applied to both models rejects Equation 3 at the 10 per cent level (CUSUM SQ., forward), so the longer lag seems more appropriate.

Both equations fit extremely well for first difference estimates, with adjusted R^2 values around 0.87. This is a period which includes the substantial wartime inflation, a drastic price decline in 1921-22, and comparative price stability in the remainder of the 1920s. Virtually all the explanatory power derives from the monetary variable, as the parameter estimates for population, productivity, and the interest rate are all statistically insignificant. The Durbin-Watson statistic falls in the upper region of the inconclusive range and thus the assumption of first-order autoregressivity cannot be rejected.

Table I: ERROR SUM OF SQUARES USING A SECOND DEGREE POLYNOMIAL
DISTRIBUTED LAG.

Lagged HPMA Terms (years)	Period		
	1912-30	1936-58	1957-77
3	.0092		.0014
4	.0095	.0105	.0013
5	.0091*	.0104	.0012
6	.0092	.0107	.0012
7	.0114	.0103	.0012
8	.0125	.0089*	.0011*
9		.0095	.0012

*Minimizes ESS.

Table II: RESULTS OF ESTIMATING MODEL 4, 1912-1930

	Eq. 2 5 year lag		Eq. 3 3 year lag	
Const	-.0285	(-1.1609)	-.0281	(-1.1497)
PROD _t	-.2795	(-1.6424)	-.2447	(-1.4358)
Aaa _t	.1780	(1.1376)	.1663	(1.0629)
POP _t	.6580	(.5602)	.7179	(.6105)
HPMA _t	.7136	(6.0487)	.7553	(5.2422)
HPMA _{t-1}	.3689	(6.4799)	.3201	(3.4788)
HPMA _{t-2}	.1325	(2.5766)	.0931	(1.0973)
HPMA _{t-3}	.0042	(.0847)	.0744	(.6281)
HPMA _{t-4}	-.0158	(-.3664)		
HPMA _{t-5}	.0724	(.7798)		
Sum of HPMA Coef. $\sum \hat{\gamma}_{t-i}$	1.2758	(5.5135)	1.2429	(6.2580)
R^2, \bar{R}^2	.9104	.8656	.9102	.8653
$\hat{\sigma}_F$	.0276	20.327	1.0277	20.2683
DW, N, K	1.7064	19 7	1.6310	19 7
CUSUM Backwards	.5321		.5733	
CUSUM SQ. Backwards	.2014		.3186	
CUSUM Forward	.4579		.5562	
CUSUM SQ. Forward	.2084		.3773	

Additional equations for 1912-1930 are shown in the appendix tables. Equation 18 estimates the level of ln CPI using all the explanatory variables. Equations 22 and 25 explain prices by only the HPMA variable for first differences (22) and levels (25). The sums of the HPMA coefficients for these three equations are .970, 1.270, and .827.

III.4 1936-58.

Table III presents estimates for the period 1936-58 using eight lagged HPMA terms, (Equation 4) the number which minimized the error sum of squares. One bothersome feature of these results is that the high-powered money coefficients increase as they recede in time and show no indication of turning down as would be expected. For comparison, Equation 5 shows the results when nine lagged HPMA terms are used. Equation 5 does display the expected decrease in the most remote HPMA coefficients.

Goodness of fit for 1936-58 is fair, with R^2 values around 0.6, but distinctly inferior to those for the other two subperiods. The impact of the monetary variable is substantially less than unity, being on the order of 0.5. And the impact of monetary policy is subject to a very long lag. In both equations 4 and 5, the HPMA values for periods t and $t - 1$ are insignificant, while significant monetary influence extends all the way back to period $t - 7$ in both cases.

In contrast with the estimates for 1912-1930, Equations 4 and 5 show a significant positive influence for the interest rate. This supports the belief that two very different mechanisms were at work in these two periods. The productivity variable is also highly significant with the expected negative sign. The Durbin-Watson statistic does not reject the hypothesis of no autocorrelation and the stability tests cannot reject a homogeneous time period.

Table III: RESULTS OF ESTIMATING MODEL 4, 1936-58

	Eq. 4		Eq. 5	
	8 year lag		9 year lag	
CONST _t	.0077	(.2226)	.0199	(.5617)
PROD _t	-.7979	(-3.7779)	-.8392	(-3.8206)
Laa _t	.2519	(2.8581)	.2661	(2.9448)
POP _t	.6013	(.1933)	-.4599	(-.1464)
HPMA _t	.0297	(.6090)	.0143	(.2916)
HPMA _{t-1}	.0319	(1.1728)	.0323	(1.1350)
HPMA _{t-2}	.0358	(1.7419)	.0462	(2.4474)
HPMA _{t-3}	.0413	(1.7272)	.0560	(2.7228)
HPMA _{t-4}	.0483	(1.8468)	.0617	(2.5411)
HPMA _{t-5}	.0570	(2.3082)	.0633	(2.5069)
HPMA _{t-6}	.0673	(2.9028)	.0608	(2.5915)
HPMA _{t-7}	.0793	(2.4990)	.0542	(2.3916)
HPMA _{t-8}	.0928	(1.7236)	.0435	(1.4385)
HPMA _{t-9}			.0287	(.5929)
Sum of HPMA Coef } $\sum \hat{Y}_{t-i}$	.4835	(3.7869)	.4608	(3.2629)
R^2, \bar{R}^2	.7405	.6432	.7213	.6168
$\hat{\sigma}, F$	.0236	7.6105	.0244	6.9008
DW, N, K	1 8965	23 7	1.9543	23 7
CUSUM Backwards	.5584		.6841	
CUSUM SQ. Backwards	.1654		.3218	
CUSUM Forwards	.3797		.5594	
CUSUM SQ. Forwards	.0877		.07447	

Additional equations for 1935-58 are shown in the appendix tables. (Equations 19, 23, 26). The sums of the HPMA coefficients for these three equations are .601, .476, and .408.

III.5 1957-77.

For 1957-77, estimates are again presented using eight lagged HPMA terms (Equation 6), the number which minimized the error sum of squares. Since the last three HPMA terms are not significant, Equation 7, using only six lagged values, is shown for comparison. Both imply very similar lag patterns, with significant HPMA impact beginning after one year and extending back through $t - 5$. The average lag is thus greater than for 1912-30 but less than for 1936-58.

Goodness of fit for 1957-77 is again very good; the R^2 values are very similar to those of 1912-30, being in the neighborhood of 0.89. The total monetary impact is slightly less than unity, with equation 7 coming much closer (0.88) than equation 6 (0.82). Productivity is highly significant and negative, but the interest rate and population are not significant. The Durbin-Watson statistic cannot reject the null hypothesis of no first-order autocorrelation.

Additional equations for 1957-77 are given in the appendix (Equations 20, 24, 27). The sums of the HPMA coefficients yielded by these equations are 1.233, 1.139, and 1.153.

In contrast with our two earlier subperiods, the estimates for 1957-77 cannot pass all the homogeneity tests. Thus we are left with the possibility that equations 6 and 7 do not represent stable relationships equally valid for the entire period 1957-77.

A number of exploratory estimations prompted by the lack of stability produced rather inconclusive results. A few interesting findings can be

Table IV. RESULTS OF ESTIMATING MODEL 4, 1957-77

	Eq. 6 8 year lag		Eq. 7 6 year lag	
Const	.0438	(2.4320)	.0402	(2.2454)
PROD _t	-0.7736	(-4.4958)	-0.7252	(-4.3103)
Aaa _t	.0053	(-.1508)	.0080	(.2338)
POP _t	-1.3122	(-1.3469)	-1.2572	(-1.2829)
HPMA _t	.0474	(.4876)	.0400	(.2438)
HPMA _{t-1}	.1189	(2.4053)	.1081	(2.2170)
HPMA _{t-2}	.1645	(5.3775)	.1526	(2.1644)
HPMA _{t-3}	.1842	(4.5970)	.1736	(1.7997)
HPMA _{t-4}	.1779	(3.6418)	.1709	(2.1540)
HPMA _{t-5}	.1457	(2.9290)	.1446	(2.5555)
HPMA _{t-6}	.0876	(1.8160)	.0947	(.6165)
HPMA _{t-7}	.0036	(.0590)		
HPMA _{t-8}	-.1064	(-1.0943)		
Sum of HPMA Coef. ΣY _{t-i}	.8236	(5.4578)	.8845	(6.2300)
R ² , R ²	.9215	(.8879)	.9152	(.8789)
σ̂ _F	.0088	27.393	.0092	25.1971
DW, N, K	1.5218	21 7	1.5265	21 7
CUSUM Backwards	.67725		.3663	
CUSUM SQ. Backwards	.3011		.1046	
CUSUM Forwards	.5429		.3185	
CUSUM ² Forwards	.4607		.4155	

briefly summarized as follows:

- a. The model was estimated for the entire period 1936-77. As one would suspect, this period is unstable, failing the backwards ordering of the CUSUM and CUSUM sq. test. In addition, a Chow test (simple form of the homogeneity statistic) applied to the 1936-56 versus 1957-77 subperiods also rejects (at the one per cent level) the homogeneity of the entire period (lending some credence to our original division).
- b. A series of 21-year overlapping regressions were estimated for 1936-56, 1937-57, . . . , 1957-77. Scanning these revealed a tendency for the interest-rate coefficient to decline and, after 1950-70, the sum of the HPMA coefficients to rise (Table V). The average lag fell substantially after 1950-70 also.
- c. Another series of regressions were estimated for 1936-63, 1936-64, . . . , 1936-70. The estimate for 1936-63 passed the homogeneity test, but those for longer periods showed progressively poorer homogeneity qualities.

Many of these issues can better be investigated with monthly data. But it may be that it is unrealistic to assume there is a model with an invariant lag structure under the conditions of the 1960s and 1970s. Perhaps the period calls for a model in which variation in monetary impact and length of lag can themselves be explained.

IV. Some Interpretations.

Each of the three subperiods emphasized here contains a major inflationary episode as well as a number of years of relative price stability. For each subperiod, the data are consistent with a monetary interpretation of the inflation and of the noninflationary episodes as well. But it is

Table V: ESTIMATE OF MODEL 4, FOR DIFFERENT PERIODS BETWEEN 1936-1977.

	Years	CONST	PROD	POP	Aaa	HPMA	HPMA ₋₁	HPMA ₋₂	HPMA ₋₃	HPMA ₋₄	HPMA ₋₅	HPMA ₋₆	HPMA ₋₇	HPMA ₋₈
Eq. 8	1956-1956	.0049	-.7899	.2705	.2744	.0425	.0418	.0432	.0468	.0526	.0605	.0705	.0826	.0969
	Cumulative effect						.0843	.1275	.1743	.2269	.2874	.3579	.4405	.5374
Eq. 9	1940-1960	-.0058	-.7386	1.526	.2133	.0582	.0548	.0351	.0392	.0470	.0585	.0738	.0929	.1157
	Cum.						.0730	.1081	.1473	.1942	.2528	.3266	.4194	.5351
Eq. 9	1945-1965	-.0253	-.5870	2.973	.1706	.0929	.0616	.0413	.0318	.0332	.0455	.0685	.1025	.1474
	Cum.						.1545	.1958	.2276	.2608	.3063	.3748	.4773	.6247
Eq. 10	1948-1968	-.0143	-.2154	1.2961	.1338	.1301	.0877	.0567	.0368	.0281	.0308	.0446	.0697	.1061
	Cum.						.2179	.2746	.3113	.3395	.3703	.4149	.4846	.5908
Eq. 11	1950-1970	.0013	-.6424	1.595	.0732	-.0052	.0202	.0415	.0586	.0717	.0806	.0853	.0859	.0825
	Cum.						.0150	.0565	.1151	.1868	.2674	.3527	.4386	.5211
Eq. 12	1952-1972	-.0053	-.2393	.9364	.0319	-.0962	.0130	.0955	.1511	.1798	.1818	.1570	.1053	.0269
	Cum.						-.0832	.01233	.1634	.3432	.5250	.6820	.7874	.8143
Eq. 13	1953-1973	-.0058	-.2543	.8489	.0296	-.0820	+.0254	.1064	.1610	.1890	.1906	.1658	.1145	.0368
	Cum.						-.0566	.0499	.2108	.3998	.5905	.7563	.8708	.9075
Eq. 14	1955-1975	.0138	-.6138	-.0785	.0114	.0134	.0885	.1428	.1759	.1880	.1791	.1492	.0982	.0264
	Cum.						.1020	.2447	.4206	.6086	.7876	.9369	1.035	1.061
Eq. 15	1957-1977	.0438	-.7737	-1.312	.0053	.0474	.1189	.1645	.1842	.1779	.1457	.0876	.0036	-0.1064
	Cum.						.1663	.3308	.5150	.6929	.8386	.9262	.9298	.8234
Eq. 16	1936-1977	-.0180	-.7211	3.095	.1272	.0197	.0219	.0273	.0359	.0476	.0626	.0807	.1021	.1266
	Cum.						.0416	.0690	.1049	.1525	.2151	.2959	.3980	.5246

important to try to account for some of the differences between periods.

The role of interest rates provides one important basis of comparison. Equation 1 indicated that for the entire period 1912-1977, the interest rate exerted a substantial positive influence on the price level. There are several bases for this influence. Higher interest rates tend to raise the velocity of money, and may also raise the money multiplier linking the public's money holdings to high-powered money. To the extent that high interest rates reflect inflationary expectations, such expectations could be the basis for wage and price increases by sellers. (Anderson and Carlson [1970])

In 1912-30 and 1957-77, the interest rate responded positively to monetary growth and price increases in a manner consistent with the Fisher effect. Our regression estimates for those periods indicate that the separate influence of the interest rate was not significant. In effect, the interest rate in periods 1 and 3 was an endogenous variable responding to change in HPMA through monetary effects on prices and price expectations in the manner analyzed by Rutledge (). The interest-rate data contain very little information not already contained in the HPMA data.

The picture for 1936-58 is quite different. In this period the interest rate moved negatively with respect to the rate of monetary growth, in the manner depicted in Keynesian analysis. The interest-rate movements were not well explained by changes in HPMA; thus the interest-rate series contains significant information not contained in the HPMA data, and is statistically significant for the subperiod.

The relatively large role implied for interest rates in Equation 1 for 1912-77 can thus be interpreted as reflecting the differences between

periods, particular with regard to the different extent of inflationary expectations and other aspects of capital-market equilibrium.

The following are some factors which help explain the variations in timing and magnitude of monetary response in the three subperiods:

1912-1930. Domestic monetary and financial conditions were significantly influenced by international forces, especially during World War I. In 1914-18, European demand for U.S. goods was financed in part by gold flows and in part by liquidating investments and borrowing. These influences tended simultaneously to raise HPMA, prices, and interest rates. However, Federal Reserve policy was clearly responsible for the sharp expansion and contraction of HPMA in 1918-21, and for its very slow growth in the 1920s. The timing of the interest-rate decline after 1920 suggests that the Fisher effect was operating. A slight downtrend in the currency and excess-reserve ratios between 1912 and 1930 helps explain why the response of prices to HPMA would be slightly greater than unity.

1936-58. This period was marked by conditions of disequilibrium in the monetary system, in the labor market, and in the capital market.

a. Disequilibrium in the monetary system was marked by the abnormal build-up and subsequent decline in currency and excess reserves, which served as a reservoir for much of the increase in HPMA after 1930. The ratio of currency to M2, which had reached a historic low of 8.2 per cent in 1930, rose to a peak of 19.9 per cent in 1945, and has been declining since then, though the rate of decline has been slight since 1963. Excess reserves, which were negligible in 1929, rose to a peak in 1940 relative to demand deposits, then were largely eliminated by 1946 and have been inconsequential since. The monetary system after 1933 was also plagued by the existence of thousands of banks undergoing liquidation, with disturbing influence on credit markets in general.

b. Labor-market disequilibrium was the most conspicuous malaise of the 1930s. Excess labor supply was reflected in high unemployment rates and also in a condition in which many employed workers would have worked longer hours at prevailing wage rates if permitted to do so. Labor-market disequilibrium made the supply schedule of output highly elastic. The rise of aggregate demand after 1933 operated largely to increase output and employment rather than prices. The excess supply of labor was eliminated by the end of 1942.

c. Capital-market disequilibrium to an extreme degree prevailed in the 1930s and 1940s. It helps explain the economy's response to expansion of HPMA in the 1930s and 1940s, and particularly helps us to understand why interest rates fell so markedly in the depression with so little apparent stimulation to investment.

The fall of output from 1929 to 1933 created a large volume of excess capacity. Deterioration of asset values raised debt burdens and caused balance sheets to deteriorate. Willingness and ability to borrow were thereby impaired for business firms, home owners, and farmers. Persistent risk aversion by lenders resulted in severe credit rationing, so that the low interest rates which prevailed on low-risk assets were not reflected in ready availability of loan funds to prospective borrowers.

The catastrophic experiences of the 1930s created expectations concerning demand, prices, and profits which were over-pessimistic. This helps explain why the substantial inflation of the 1940s did not generate the kind of behavior we associate with inflationary expectations. The velocity of money declined, and the public willingly accumulated vast sums of interest-bearing deposits and bonds despite negative real rates of interest. Prices of corporate stocks rose only grudgingly.

Capital market disequilibrium was reflected in the decline in the corporate Aaa bond interest rate from 5.01 per cent in 1932 to 2.53 per cent in 1946. The low rates reached in the 1940s were not consistent with the true value of the potential productivity and profitability of capital goods, particularly after wartime conditions had eliminated the excess capacity. In the 1950s, the economy moved to eliminate capital-market disequilibrium through a process which involved simultaneous increase in interest rates, stock prices, and the ratio of capital goods to output. This process created a bouyant economy in which prices crept upward in spite of an extremely low rate of increase in HPMA. It is noteworthy that the same regressions which account for the "demand-pull" inflation of the 1940s also account for the "cost-push" upcreep of prices after 1953. The end of the period of capital-market disequilibrium can be identified with the tendency for the interest rate to stabilize around 4.5 per cent in 1959-65.

1957-77. This period is relatively unique in that its substantial rate of inflation apparently came to be fully anticipated, as reflected in behavior in capital and labor markets. A gradual increase in the monetary growth rate in the 1960s initially raised output and employment, but also generated accelerating inflation and inflationary expectations. The rise in interest rates was sufficiently large as to suggest that the existing rate of inflation was full incorporated into people's expectations. The learning process by which these expectations were formed probably accounts for the gradual shortening of the lag and increase in the total impact of monetary policy on prices.

In conclusion, the total monetary impact on prices is similar in 1912-30 and in 1957-77, the elasticity in each case approximating unity.

The period 1935-57 is the anomaly historically; yet it has played a disproportionately influential role in shaping our image of the inflation process and methods for dealing with it. It is the period in which the Keynesian analysis took hold. Evidence of this period appeared to show that monetary expansion could lower equilibrium interest rates and raise equilibrium output and employment. The link between money and prices appeared to be very loose, so the feasibility of government price controls was not seriously questioned. Actual inflation did not generate inflationary expectations operating on capital markets and interest rates. Thus the bond-price support program of the Federal Reserve did not lead to explosive results.

Monetary policy has been the direct cause of each sustained inflationary experience during the lifetime of the Federal Reserve system. However, recognition of this causation has been obscured by the relatively long lags between monetary stimulus and price response which have prevailed during much of this time. Because of the lagged effects, prices will tend to rise in the near future in response to monetary expansion which has already occurred. The Federal Reserve has apparently undertaken a systematic monetary slowdown since last October. Only if this is sustained are we likely to see the inflation rate diminish appreciably.

Appendix I

Theorem: Assume the model,

$$y_t = \beta_0 + \beta_1 x_{1t} + \dots + \beta_k x_{kt} + \gamma_0 z_t + \gamma_1 z_{t-1} + \dots + \gamma_l z_{t-l} + u_t, \\ t = 1, \dots, n \quad (1)$$

where y_t is the observed dependent variable, x_{1t}, \dots, x_{kt} are k independent variables, $\beta_0, \beta_1, \dots, \beta_k$ are $k+1$ unobserved parameters, z_{t-1}, \dots, z_{t-l} are l successive lagged values of the variable z_t with corresponding parameters γ_i which follow a polynomial of degree m and u_t are the unobserved disturbance terms which are assumed to be independently and identically distributed normal variates with mean of zero and constant variance. If the degree of the polynomial m is known but the length of the lag l is not then the length of the lag that maximizes the likelihood function is the same length which minimizes the error sum of squares using least squares estimators of the unknown parameters.

Proof

Rewriting model (1) to constrain the parameters γ_i to follow a polynomial of degree m one obtains,

$$y_t = \beta_0 + \beta_1 x_{1t} + \dots + \beta_k x_{kt} + \lambda_0 \sum_{i=0}^l z_{t-i} + \lambda_1 \sum_{i=1}^l i z_{t-i} + \dots + \\ \lambda_m \sum_{i=1}^l i^m z_{t-i} + u_t, \quad t = 1, \dots, n \quad (2)$$

where $\lambda_0, \dots, \lambda_m$ are the parameters of the m 'th degree polynomial. For notational simplicity however model (2) will be rewritten as,

$$y = X\underline{\beta} + P\underline{\lambda} + u \quad (3)$$

where y , X , $\underline{\beta}$, $\underline{\lambda}$, u are the straight forward model (2) while the matrix P is an $n \times (m+1)$ matrix of variables where the (t,s) 'th element equals $\sum_{i=0}^l i^{s-1} z_{t-i}$. Using this simplified notation the logarithmic likelihood

function can be written as $L = -\frac{n}{2} \log (2\pi) - \frac{n}{2} \log \sigma^2 - \frac{1}{2\sigma^2} (\underline{y} - \underline{X}\underline{\beta} - \underline{P}\underline{\lambda})' (\underline{y} - \underline{X}\underline{\beta} - \underline{P}\underline{\lambda})$.

Maximizing this function with respect to σ^2 and using this estimator to replace σ^2 one obtains the concentrated likelihood function,

$L' = -\frac{n}{2} \log (2\pi) - \frac{n}{2} - \frac{n}{2} \log [(\underline{y} - \underline{X}\underline{\beta} - \underline{P}\underline{\lambda})' (\underline{y} - \underline{X}\underline{\beta} - \underline{P}\underline{\lambda})]$. Quite clearly this expression is maximized by those values of $\underline{\beta}$, $\underline{\lambda}$, and $\underline{\lambda}$ which minimize $(\underline{y} - \underline{X}\underline{\beta} - \underline{P}\underline{\lambda})' (\underline{y} - \underline{X}\underline{\beta} - \underline{P}\underline{\lambda})$. However, this is exactly equivalent to estimating model (3) using least squares with successive values of $\underline{\lambda}$ and choosing the result that minimizes the error sum of squares.

Appendix of Tables

	Table A-1			
	Regressions in Levels of the Variables, Almon lag			
	Eq. 18 1912-30	Eq. 19 1936-58	Eq. 20 1957-77	Eq. 21 1912-77
HPMA _t	.517 (7.78)	.065 (2.53)	.247 (3.02)	.097 (1.59)
HPMA _{t-1}	.290 (7.72)	.057 (4.12)	.161 (5.01)	.098 (4.22)
HPMA _{t-2}	.126 (2.74)	.053 (5.83)	.101 (6.27)	.096 (5.63)
HPMA _{t-3}	.023 (.57)	.052 (5.13)	.065 (1.86)	.089 (2.89)
HPMA _{t-4}	-.01 (.62)	.055 (5.02)	.054 (1.23)	.079 (2.19)
HPMA _{t-5}	.006 (.08)	.061 (6.74)	.068 (1.68)	.065 (2.12)
HPMA _{t-6}		.071 (13.11)	.107 (3.93)	.045 (2.80)
HPMA _{t-7}		.084 (9.08)	.171 (6.15)	.027 (1.14)
HPMA _{t-8}		.101 (4.68)	.260 (3.87)	.002 (.04)
Prod.	.084 (.35)	-.826 (4.99)	-.344 (3.11)	-.559 (2.28)
Pop.	-.659 (1.89)	.236 (.35)	-.232 (.58)	-.107 (.32)
Aaa	.221 (1.22)	.426 (6.47)	.039 (1.43)	.561 (11.64)
constant	4.688	4.379	2.605	4.652
R ²	.9923	.9977	.9994	.967
DW	1.93	2.39	2.82	0.34
s.e.	.027	.016	.007	
ΣHPMA	.945	.601	1.233	.601
CUSUM backward	.5743	.3987	.5149	
CUSUM Sq. backward	.4468	.2020	.3292	
CUSUM forward	.6095	.2434	.6538	
CUSUM Sq. forward	.2881	.3606	.6063	

Table A-2
 First Difference Regressions, HPMA only, Almon lag

	Eq. 22 <u>1912-30</u>	Eq. 23 <u>1936-58</u>	Eq. 24 <u>1957-77</u>
HPMA _t	.803 (6.32)	.009 (.14)	-.059 (.42)
HPMA _{t-1}	.330 (3.57)	.014 (.42)	.075 (1.07)
HPMA _{t-2}	.097 (1.33)	.022 (.87)	.172 (3.75)
HPMA _{t-3}	.021 (.29)	.032 (.99)	.231 (3.66)
HPMA _{t-4}	.017 (.18)	.045 (1.21)	.252 (3.34)
HPMA _{t-5}	.002 (.01)	.060 (1.75)	.236 (3.20)
HPMA _{t-6}		.077 (2.79)	.182 (2.79)
HPMA _{t-7}		.097 (2.90)	.090 (1.13)
HPMA _{t-8}		.120 (1.92)	-.039 (.29)
constant	-.022	-.005	-.005
R ²	.877	.373	.746
DW	2.07	1.34	1.33
s.e.	.030	.034	.014
ΣHPMA	1.270	.476	1.139

Table A-3
Regression in Levels, HPMA only, Almon Lag

	Eq. 25 1912-30	Eq. 26 1936-58	Eq. 27 1957-77
HPMA _t	.501 (7.13)	-.020 (.54)	-.295 (3.49)
HPMA _{t-1}	.338 (16.07)	.012 (.83)	-.037 (1.06)
HPMA _{t-2}	.188 (4.04)	.037 (3.98)	.156 (5.74)
HPMA _{t-3}	.052 (1.10)	.056 (3.08)	.284 (6.28)
HPMA _{t-4}	-.071 (3.62)	.068 (3.10)	.346 (6.46)
HPMA _{t-5}	-.181 (2.75)	.073 (3.80)	.343 (6.95)
HPMA _{t-6}		.071 (6.67)	.274 (7.28)
HPMA _{t-7}		.063 (6.04)	.141 (3.16)
HPMA _{t-8}		.048 (1.50)	-.058 (.66)
constant	2.686	3.226	.393
R ²	.983	.987	.9962
DW	1.09	1.04	0.93
s.e.	.035	.034	.016
ΣHPMA	.827	.408	1.153

Data Sources:

POP: Population aged 14-64, U.S. Dept. of Commerce, Long Term Economic Growth, 1860-1970 (1973), pp. 200-3; 1973-75 data from current issues of Statistical Abstract of the U.S.; 1970-72 estimated by interpolation; 1976-77 estimated by extrapolation.

PROD: Index of labor productivity, Long Term Economic Growth, pp.208-9; Economic Report of the President, 1978, p. 300.

HPMA: High-powered money adjusted for changes in legal reserve requirements, Milton Friedman and Anna J. Schwartz, A Monetary History of the U.S. 1867-1960, (NBER, 1963), pp. 799-808; worksheets and current publications of the Federal Reserve Bank of St. Louis. Dollar equivalents of reserve requirement changes prior to 1950 were estimated by Professor Trescott from data in Banking and Monetary Statistics, Federal Reserve Board, 1943, pp. 396; 340, and current issues of Federal Reserve Bulletin.

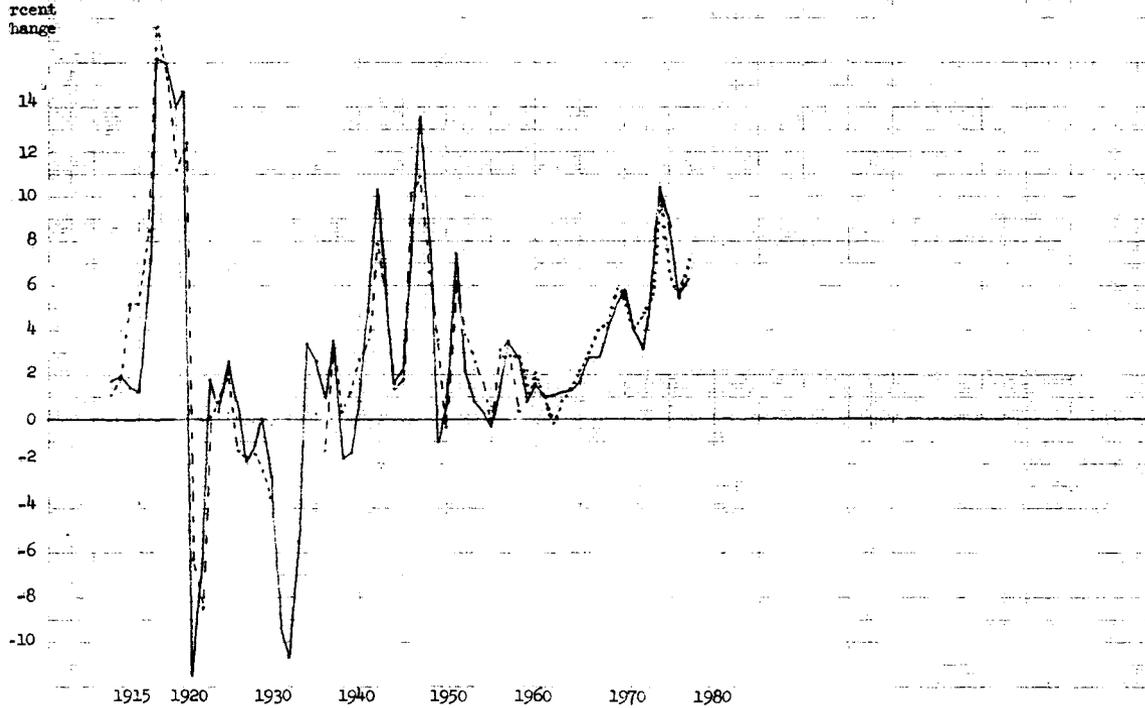
Aaa: Interest rate on corporate Aaa bonds, Banking and Monetary Statistics, p. 368, Economic Report, 1978, p. 332. Values for 1912-19 were estimated by multiplying 1.16 times the railroad bond yields in Banking and Monetary Statistics, p. 478.

CPI: Consumer price index, 1947-49=100, U.S. Department of Commerce, Historical Statistics of the U.S., Colonial Times to 1960, 196 , pp. 125-6, Economic Report 1978, p. 314; spliced backwards into data of Ethel Hoover in U.S. Congress, Joint Economic Committee, Hearings on Employment, Growth, and Price Levels, 1959, Part 2, pp. 397-8.

Year-to-Year Changes in Consumer Price Index in U.S., 1912-1977

Actual changes

and ... Changes estimated by subperiod regressions for 1912-30, 1936-58, 1957-77.



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Table A-4
Listing of Data and Sources

YR	HPMA	Aaa	POP	PROD	CPI
04	2.41	4.07	52.9	23.2	38.1
05	2.47	4.01	54.1	25.4	38.1
06	2.63	4.13	55.4	27.1	38.5
07	2.82	4.38	56.6	26.9	40.0
08	3.09	4.35	57.8	26.0	39.3
09	3.12	4.25	59.2	27.5	38.9
10	3.18	4.42	60.6	26.8	40.6
11	3.28	4.47	61.7	27.3	40.8
12	3.35	4.51	62.5	27.8	41.5
13	3.42	4.71	63.9	28.4	42.3
14	3.63	4.70	65.1	28.9	42.9
15	3.88	4.85	66.0	27.8	43.4
16	4.40	4.69	68.9	29.2	46.6
17	5.16	4.98	67.5	27.5	54.8
18	5.78	5.42	67.0	29.7	64.3
19	6.62	5.49	68.2	31.8	74.0
20	7.19	6.12	69.5	31.5	85.7
21	6.54	6.97	71.1	34.3	76.4
22	6.20	5.10	72.1	33.6	71.6
23	6.65	5.12	73.5	34.9	72.9
24	6.67	5.00	75.1	36.5	73.1
25	7.03	4.88	75.5	36.8	75.0
26	7.12	4.73	77.5	37.4	75.6
27	7.17	4.57	78.9	37.5	74.2
28	7.12	4.55	80.5	38.0	73.3
29	7.12	4.73	81.5	39.6	73.3
30	6.94	4.55	82.9	38.7	71.4
31	7.32	4.58	83.7	40.0	65.0
32	7.79	5.01	84.7	39.4	68.4
33	8.16	4.49	85.5	38.6	68.3
34	9.13	4.00	86.5	41.6	67.2
35	10.7	3.60	87.5	42.8	68.7
36	11.2	5.24	88.5	43.3	69.3
37	13.8	3.26	89.5	43.9	61.4
38	12.0	5.19	90.5	45.5	60.3
39	15.1	3.01	91.6	47.0	69.4
40	18.8	2.84	92.5	48.0	69.9
41	20.5	2.77	93.5	49.1	62.9
42	22.2	2.83	94.5	48.6	69.7
43	27.9	2.73	95.4	48.7	74.0
44	33.5	2.72	96.5	51.9	75.2
45	39.5	2.62	97.1	54.8	76.9
46	42.0	2.53	97.6	55.1	83.4
47	42.6	2.61	98.4	52.3	95.8
48	42.5	2.62	99.1	54.4	102.5
49	41.4	2.66	100.0	55.3	101.5
50	41.4	2.62	100.7	59.7	102.5
51	43.0	2.66	101.4	61.5	111.0

Table A-4 (continued)
Listing of Data and Sources

YR	HPMA	Aaa	POP	PROD	CPI
52	45.2	2.96	102.2	63.0	113.1
53	46.5	3.20	102.6	65.3	114.4
54	47.1	2.90	103.6	66.5	114.6
55	47.6	3.06	104.5	69.2	114.5
56	48.5	3.36	105.5	70.2	118.2
57	48.8	3.69	107.0	72.5	120.2
58	49.7	3.79	108.1	74.2	123.6
59	50.7	4.38	109.5	75.5	124.6
60	50.9	4.41	110.7	78.1	126.6
61	52.3	4.35	112.5	80.6	127.9
62	53.8	4.33	114.5	84.4	129.5
63	56.0	4.26	116.4	87.7	130.9
64	58.7	4.40	118.2	91.5	132.6
65	61.6	4.49	120.0	94.7	134.9
66	64.6	5.13	121.5	97.5	136.7
67	66.1	5.51	123.9	100.9	142.7
68	72.4	5.18	125.6	103.5	148.7
69	75.9	7.03	128.0	105.7	158.7
70	79.3	8.04	130.4	104.5	168.0
71	85.6	7.39	132.7	107.5	173.1
72	91.5	7.21	135.1	111.5	176.6
73	99.4	7.44	137.4	113.1	189.9
74	107.3	8.57	139.4	109.9	210.6
75	115.0	8.65	141.5	111.5	230.0
76	124.7	8.43	143.5	115.5	243.5
77	132.8	8.02	145.5	119.5	259.1

○