

SHADOW OPEN MARKET COMMITTEE

Policy Statement and Position Papers

March 19-20, 1989

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Public Policy Working Paper Series



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SHADOW OPEN MARKET COMMITTEE

The Committee met from 2:00 p.m. to 7:00 p.m. on Sunday, March 19, 1989 in Washington, D.C.

Members of the SOMC:

- PROFESSOR KARL BRUNNER, Director of the Bradley Policy Research Center, William E. Simon Graduate School of Business Administration, University of Rochester, Rochester, New York.
- PROFESSOR ALLAN H. MELTZER, Graduate School of Industrial Administration, Carnegie Mellon University, Pittsburgh, Pennsylvania.
- MR. H. ERICH HEINEMANN, Chief Economist, Ladenburg, Thalmann & Co., Inc., New York, New York.
- DR. JERRY L. JORDAN, Senior Vice President and Economist, First Interstate Bancorp, Los Angeles, California.
- DR. MICKEY D. LEVY, Chief Economist, First Fidelity Bancorporation, Philadelphia, Pennsylvania.
- PROFESSOR WILLIAM POOLE, Department of Economics, Brown University, Providence, Rhode Island.
- PROFESSOR ROBERT H. RASCHE, Department of Economics, Michigan State University, East Lansing, Michigan.
- DR. ANNA J. SCHWARTZ, National Bureau of Economic Research, New York, New York.

SOMC POLICY STATEMENT SUMMARY

Washington, March 20 — The Shadow Open Market Committee warned today that the Federal Reserve System "has increased the risk of recession by holding recent money growth below the Fed's announced targets."

The SOMC is a group of academic and business economists who meet regularly to comment on public policy. It was founded in 1973 by Professors Karl Brunner of the University of Rochester and Allan H. Meltzer of Carnegie Mellon University.

At a press conference, members of the SOMC strongly supported the Federal Reserve's goal of achieving "maximum sustainable growth over time" by fostering price stability. The Committee cautioned that "the implementation of monetary policy, however, leaves considerable doubt about current monetary practices."

The SOMC said that "the problem arises because statements by Federal Reserve officials lead market participants to anticipate that strong, persistent real growth will be followed by Federal Reserve actions that raise interest rates. Interest rates then rise in anticipation of Federal Reserve action." If the Fed does not raise rates, market participants conclude that the Fed is willing to tolerate higher inflation. Anticipations of inflation increase, causing higher bond yields.

The economy may be the victim of the Fed's rhetoric and procedure. "Money growth has been pushed below the rate consistent with sustained economic growth and gradual disinflation. This will increase pressure on the Federal Reserve to reflate when activity slows. The cycle of stop-and-go monetary policy is perpetuated."

The SOMC called on the Federal Reserve to achieve its announced targets for monetary growth in 1989. "We urge the Federal Reserve: (1) to reject fine tuning; (2) to publicly disavow the Phillips curve and concerns about policy mix; and (3) to achieve its announced targets for money growth. Growth of the monetary base should be maintained in the range of 5 percent to 6 percent this year."

The SOMC also said that President Bush's proposed reform of the thrift industry and its regulators fails "to address directly the incentives of governmentally-provided deposit insurance to shift losses to taxpayers ... Minimum capital requirements — such as now imposed on banks — will

not solve the problem or prevent a recurrence of current problems ... As long as the government continues, in effect, to sell fire insurance that pays off in case of arson, the problem will persist.

The Committee added that the Brady Plan for third-world debt introduces for the first time taxpayer financed guarantees. It fails to provide incentives for debtor countries to reform. No lasting improvement in these economies can be expected until their anti-growth policies are changed. A change in policies that promotes a return of flight capital is required. If that were achieved neither new lending nor guarantees would be needed; if it is not, no amount of lending will help.

SHADOW OPEN MARKET COMMITTEE

Policy Statement March 20, 1989

The start of a new administration provides an opportunity to review existing policies. The Bush Administration reviewed and revised President Reagan's budget for fiscal 1990, introduced proposals to resolve problems in the thrift industry and proposed significant changes in U.S. policy for dealing with the international debt of developing countries.

The Federal Reserve responded to concerns about rising inflation by reducing monetary growth rates. Coincidentally, short-term interest rates rose. At its semi-annual meeting, the Shadow Open Market Committee discussed these developments. The Committee issued a statement on monetary and fiscal policies and on the thrift and international debt problems.

Monetary Policy

During the past year, the Federal Reserve has reduced the growth of the monetary base. Between July 1988 and February 1989, the base grew at an annual rate of 4.6 percent, in contrast to growth of 7.4 percent from February 1987 to July 1988. In 1986, the base grew at an average annual rate of 10.4 percent. The Federal funds rate has increased by about 3 percentage points over the last year, in line with the increase in rates on other short-term instruments.

In his February 21 testimony to the Congress, Chairman Greenspan emphasized that "maximum sustainable economic growth over time is the Federal Reserve's ultimate objective. The primary role of monetary policy in the pursuit of this goal is to foster price stability." We applaud this statement. Further, he recognized that "inflation cannot persist without a supporting expansion in money and credit." And, he added, "price stability requires moderate growth in money — at rates below those prevailing in recent years."

The Federal Reserve should not make or imply any commitments that might deflect it from this course. There is no sustainable trade off between inflation and growth that can be exploited by monetary manipulation. It is a false dichotomy to characterize some Federal Reserve policy makers as "pro-growth" and others as "anti-inflation."

We agree with Chairman Greenspan's definition of "price stability" as the circumstance in which "expected changes in the average price level are small enough and gradual enough that they do not materially enter business and household financial decisions."

To move toward price stability, Chairman Greenspan announced a further, modest reduction in the growth rates of monetary aggregates, continuing a policy of sustained, gradual reduction in money growth. Since its inception, the SOMC has advocated that approach. We fully support the Federal Reserve's goals and current monetary targets.

The implementation of monetary policy, however, leaves considerable doubt about current monetary practices as well as the relation of those practices to the statements and announcements of Chairman Greenspan and other Federal Reserve officials. The potential for three often-repeated mistakes in monetary policy is particularly disturbing.

First, Federal Reserve officials have expressed repeatedly their belief that the economy cannot grow more than $2\frac{1}{2}$ percent or 3 percent without accelerating inflation. Such statements confuse aggregate supply and the economy's growth with aggregate demand. Federal Reserve policy affects aggregate demand and can be used to keep the level of aggregate demand growing at a rate consistent with stable prices.

Recent statements by some Federal Reserve officials imply that policy makers base their actions on the discredited Phillips curve, according to which inflation results from changes in capacity utilization, independently of the rate of monetary expansion. The Federal Reserve watches many indicators of real activity including employment, unemployment, capacity utilization, and unfilled orders. When these and other indicators suggest strong growth in aggregate supply, the Federal Reserve frequently raises interest rates and reduces money growth.

This policy has increased the risk of recession by holding recent money growth below the Fed's announced targets. The problem arises because statements by Federal Reserve officials lead market participants to anticipate that strong, persistent real growth will be followed by Federal Reserve actions that raise interest rates.

Interest rates then rise in anticipation of Federal Reserve action. If the Federal Reserve were to fail to raise rates, market participants would conclude that the Fed was willing to tolerate higher inflation. Anticipation of inflation would increase, causing higher bond yields.

Thus, the Federal Reserve and the economy become victims of the Fed's rhetoric and procedures. As a result, money growth has been pushed below the rate consistent with sustained economic growth and gradual disinflation.

This will increase pressure on the Federal Reserve to reflate when activity slows. The cycle of stop-and-go monetary policy is perpetuated.

Second, Chairman Greenspan testified that a reduction in the budget deficit to meet the Gramm-Rudman-Hollings target for 1990 would reduce real rates of interest. We believe that the size of the reduction would be small. More importantly, the budget deficit has no necessary implication for nominal rates of interest.

Therefore, the Federal Reserve should make no commitment to lower nominal rates following a reduction of the budget deficit. Action of this kind would repeat the serious policy errors of 1967–1968. At that time, the Federal Reserve delayed needed monetary policy changes while waiting for Congress to take action to reduce the budget deficit.

Dr. Greenspan's statement could be interpreted to mean that the Federal Reserve would increase money growth to lower interest rates following a reduction in the Federal deficit. Action of this kind would be a return to mistaken policies which fueled the sustained inflation of the late 1960s and 1970s. For example, in 1968, the Federal Reserve raised money growth to "offset" the alleged deflationary effect of a tax surcharge. Such a mistake should not be repeated.

Third, the Federal Reserve appears to have resumed the fine tuning that was responsible for major mistakes in the past. Such policies require more and better information about the impact and lagged effects of monetary actions than we, the Fed, or others, possess or can obtain.

While our knowledge about the impact of changes in money growth on output and prices is imprecise, it is more reliable than our knowledge of the relation of prices to output, or of the effects of mixtures of monetary and fiscal action. In addition, the Fed tends to forget at critical times that monetary policy affects economic activity with long and variable lags.

The present acceleration of inflation stems from overly expansive monetary policy in 1985 and 1986. The Federal Reserve has announced target ranges for monetary growth in 1989. We believe that the mid-points of the announced target ranges — if achieved as part of a continuing, long-run program to reduce money growth — would result in a gradual reduction in inflation. We urge the Federal Reserve: (1) to reject fine tuning; (2) to publicly disavow the Phillips curve and concerns about policy mix; and (3) to achieve its announced targets for money growth. Growth of the monetary base should be maintained in the range of 5 percent to 6 percent this year.

Fiscal Policy

Despite different forecasts of output, inflation, interest rates and the budget deficit, both the Administration and the Congressional Budget Office expect an increase of about \$85 billion in Federal revenues for fiscal year 1990. This is an increase of 8.8 percent over fiscal year 1989. A total of \$85 billion of addition revenue does not represent a tight budget. Part of the additional revenues must be used to meet the required Gramm-Rudman-Hollings target for the deficit. Nevertheless, there is still approximately \$50 billion for new spending.

The problem is that the growth of actual as well as desired spending, is too high. Congress should meet the Gramm-Rudman-Hollings targets by reducing the growth of government spending. This problem will persist as long as Congress and the Administration continue in the belief that the government is more capable of solving problems than its citizens. We believe the opposite to be true. If Social Security and other non-means-tested programs remain sacrosanct, Federal spending will continue to be biased toward consumption-oriented activity and away from investment.

Loans and Bailouts

Since 1982, the government has offered optimistic assessments of prospects for improvement of the condition of savings and loan associations and the troubled international debt of developing countries. Administration policies with regard to these two issues have several common features:

They have permitted accounting rules that allow banks and thrifts to avoid reporting the true values of their assets. They give little attention to providing incentives for debtors and creditors to recognize past losses. They have allowed the problem to compound. Taxpayers will have to pay for the mistakes of the lenders, borrowers and regulators.

Failure to address directly the incentives of governmentally-provided deposit insurance to shift losses to taxpayers is a major flaw in the Administration's Plan to restructure the S&Ls. Minimum capital requirements — such as now imposed on banks — will not solve the problem or prevent a recurrence of current problems.

At banks as well as savings institutions, depositors, creditors and owners must have incentives to pay attention to the performance of the managers of institutions they entrust with their funds. The Administration plan does not provide these incentives. As long as the government continues, in effect, to sell fire insurance that pays off in the case of arson, the problem will persist.

The Brady Plan for third-world debt introduces for the first time guarantees to be financed by U.S. and foreign taxpayers. It fails to introduce incentives for debtor countries to reform their policies. No lasting improvement in these economies can be expected until their anti-growth policies are changed. A change in policies that promotes a return of flight capital is required. If that were achieved, neither new lending nor taxpayer-financed guarantees would be needed; if it is not, no amount of lending will help.

ECONOMIC OUTLOOK Jerry L. JORDAN First Interstate Bancorp

In contrast to one year ago when post-crash worry about recession dominated Fed policy, now the rising trend of inflation has finally caught the policymakers' attention. The inflation we have suffered in the past year is a lagged response to the exceptionally stimulative policy actions of 1985–86 when the Baker "cheap dollar" policies dominated other objectives. Now that "the toothpaste is out of the tube," the FOMC is going to have a difficult time getting it back in again. Since the effect of policy actions on output and employment is quicker than on prices, the current anti-inflation stance of the Fed is likely to produce a substantial deceleration of real economic activity in the quarters immediately ahead. At least a mild recession is highly probable.

Last September we projected a mild downturn beginning by mid-1989 and lasting two or three quarters. That forecast resulted from two key assumptions. One was that earlier monetary growth had been excessive, helping to push inflation into the 5 percent – 6 percent range in 1989. The second assumption was that as inflation reached such levels monetary policy would become quite restrictive and a transitory contraction of the national economy would follow.

In the present environment of higher inflation, rapid monetary growth this year might postpone, but would not prevent, an ultimate recession. Recessions are not the result of a lack of stimulus; economic expansions do not die of old age. "Pump-priming" actions by government are not necessary to prolong an expansion. The time to combat recession has now passed.

To avoid policies continuing to be procyclical, the FOMC must avoid two types of mistakes this year. One would be to continue to contract bank reserves this year as the real growth of the economy slows. The other would be to shift abruptly to a rapid monetary growth policy to stimulate recovery from the downturn — but, at the expense of rising inflation in the future.

The U.S. Economy

Changes Since September

Since the last meeting of the SOMC in September 1988, several events have taken place that could affect the economic outlook.

- 1. A new administration is in office. However, while the Bush administration's program will differ in details from President Reagan's, reliance on market forces, as opposed to government controls, and efforts to hold down the level of taxes will probably continue.
- 2. Oil prices have risen appreciably. Since September 1988, the spot price of crude oil (West Texas Intermediate) has increased from less than \$13 a barrel to over \$18 in March 1989. This rise partly reflects higher-than-expected world oil consumption but mainly OPEC's agreement to restrict output. The effectiveness of that agreement remains to be tested. Consequently, we are currently maintaining our assumption that oil prices will average in the mid-teens over the 1989-90 period.
- 3. The dollar has strengthened on foreign-exchange markets. Following a decline last autumn, the dollar has recently appreciated significantly against such currencies at the German mark and the Japanese yen. This has for now removed one factor that could prompt further tightening in Federal Reserve policy, and it may indicate that monetary policy is already relatively restrictive.
- 4. The yield curve has flattened further and begun to "invert." The gap between the yield on 30-year government bonds and 3-month Treasury bills has narrowed from a positive 203 basis points last September to only a few basis points currently. The 2-year Treasury Note now yields almost 40 basis points more than a 30-year bond. A yield curve inversion typically has preceded an economic slowdown.

Monetary Policy Actions

Monetary policy has reached a critical stage for this cycle. Actions by the Federal Reserve will be the most important force determining the course of economic growth in 1989. Since March 1988, the Fed has been slowing the growth of reserve and monetary aggregates to prevent the economy from "overheating" and moving to a higher rate of inflation. All of the major measures of the money supply — currency, bank reserves, the monetary base, M1 and M2 — showed a trend of deceleration during 1988. For example, the monetary base expanded at an annual rate of 8.5 percent in the first quarter of 1988, but at only a 4.9 percent rate in the final quarter of the year.

Developments in three key areas will determine the trend of Federal Reserve actions in 1989: economic growth, inflation, and the dollar. The FOMC is responding primarily to recent monthly economic data. Signs of weakness in the economy would prompt easing. Such actions would be reinforced if inflation appears to be subsiding and the dollar is strong on foreign-exchange markets. In contrast, data indicating a robust economy could lead to further tightening, as could reports of higher inflation or a major decline in the value of the dollar.

To gauge the impact of its policies, the Fed now monitors a wide range of statistics. These include employment, production, commodity prices, the shape of the yield curve, and the foreign-exchange value of the dollar. The problem, of course, is that these indicators often give conflicting signals, and Fed policymakers do not agree among themselves about the weights to assign. The current approach to policy formulation is as short-run focused and as discretionary as it has ever been.

The Federal Reserve has no desire to push the U.S. economy into a downturn in 1989. However, good intent is not sufficient. Unless the growth of bank reserves and the monetary aggregates is quickly revived, the risk of recession this year remains. Indications of a relatively healthy economy at the beginning of 1989 have caused the Federal Reserve to raise its Federal funds rate target to almost 10 percent. The prospects for bank-reserve and monetary growth this year are hard to guess.

The growth of the monetary aggregates could accelerate through one of two avenues. First, if the dollar continues to be strong on foreign-exchange markets, "unsterilized" intervention (not offset by domestic open-market operations) will result in an increased growth of bank reserves. Second, if domestic credit demands are strong, upward pressure on market interest rates, relative to the Fed's target for the Federal funds rate, would cause an acceleration in bank reserves and money growth.

However, since we have already had about nine months of slow growth in all measures of the money supply and bank reserves, we believe Fed actions already have been sufficiently restrictive to produce a substantial economic slowdown in the spring quarter. If the economy appears to be moving into even a mild recession in the second quarter, as we forecast,

the Federal Reserve can be expected to begin to lower its Fed funds operating target by mid-year. Nevertheless, we do not expect Federal Reserve actions to produce a sharp rise in the money supply before late in the year. In fact, if market rates begin to be bid down faster than the Fed is willing to lower the Fed funds target, there is the risk that the FOMC will perceive their actions as being easier even though bank reserves continue to contract.

Recent Economic Indicators and the Outlook

Preliminary numbers indicate that the economy recorded a solid gain in 1988, with a fourth-quarter-to-fourth-quarter increase in real GNP of 2.7 percent. Without the impact of the drought, growth would have been 3.3 percent.

A rebound from last year's drought losses will add 2.5 percent to the first quarter's real GNP growth rate in 1989. Combined with an underlying growth of 2.2 percent, this "add factor" will contribute to a strong annual growth rate of close to 5 percent in the first three months. A mild downturn is then likely to begin by the second quarter and last at least through the third quarter. The recession is expected to be very short and shallow because the Federal Reserve (with Administration encouragement) is likely to opt for quick easing of monetary policy at the earliest signs of economic slowing.

Consequently, we believe that the economy will return to a positive track by the end of this year, bringing growth for 1989 as a whole (fourth-quarter-to-fourth-quarter) to 1.2 percent. A sizable rebound of 3.5 percent should then develop in 1990.

We are somewhat more optimistic about the prospects for the auto and housing industries than we were last fall, but we continue to expect declines in both industries. Our forecast is for combined sales of cars and light trucks to ease to about 13.2 million units this year from the robust 15.4 million units in 1988. Sales of new cars alone would decrease from 10.6 million last year to 9.3 million vehicles in 1989. We expect housing starts to ease to 1.4 million units from last year's 1.5 million units.

All major sectors of the U.S. economy are likely to experience some slowing in 1989, with the largest declines being consumer spending for durable goods, construction (especially office and commercial building), and defense. Better inventory control will help prevent a major swing from stock accumulation to liquidation, although some imbalances are likely to develop.

Although export growth is expected to moderate from the rapid pace of 1988, a slowdown in domestic demand will curb import growth substantially. Consequently, the real value of the foreign deficit in goods and services is likely to diminish as 1989 progresses. This will offset some of the impact of softer domestic spending.

During the past six years of expansion, from the end of 1982 to the end of 1988, the U.S. economy generated 18.6 million jobs, or an average of 3.1 million per year. The deceleration in the economy we expect this year means a gain of only 1.1 million new jobs is likely. However, payroll employment would then rise by another 3.2 million in 1990.

The overall unemployment rate in the U.S., including the military, is expected to rise from an average of 5.3 percent in the fourth quarter of 1988 towards 6 percent by the end of 1989. A pickup in economic growth is then likely to push the jobless rate down close to 5 percent by the end of 1990.

Inflation

Consumer prices rose 4.2 percent on a fourth-quarter-to-fourth-quarter basis in 1988, similar to the increase of 1987. Although monetary growth has slowed markedly from the double-digit pace of two years ago, we have probably not yet seen the full impact of that stimulus on prices. During the first quarter of 1989, the CPI is expected to increase at a 5 percent annual rate.

The first impact of changes in monetary policy is typically on output and employment since contracts and inflationary expectations do not change instantaneously. With 1989 unlikely to break from that pattern, an economic slowdown will not be accompanied by an immediate slowing in inflationary pressures. However, after rising 5 percent or more in 1989, we expect consumer prices to rise 4.5 percent in 1990.

Average employee costs, led by a near-doubling of benefit expenses, climbed 5 percent in 1988, following an increase of only 3.6 percent in the prior year. Although the Social Security tax rate remains unchanged this year, following a rise in 1988, further increases in health insurance costs and somewhat larger increases in wages and salaries can be expected. Consequently, average employee costs are likely to again advance by 5 percent in 1989 before easing to about a 4.7 percent rise in 1990.

Interest Rates

If our assumptions and forecasts about monetary policy and the economy are correct, interest rates are now close to their peaks for this cycle. Signs of continued economic strength in early 1989 or indications of increased inflationary pressures could cause one more round of Federal Reserve "tightening." Short-term interest rates could rise another quarter to half of a percentage point.

Indications of economic weakness and a shift toward monetary easing would then drive short-term interest rates down as much as two percentage points by the end of 1989. For example, 3-month Treasury bill rates are forecast to move from about 8.6 percent currently (discount basis) to an average of 6.5 percent in the fourth quarter. Short-term rates would rise gradually over the course of 1990 in response to a strengthening economy.

The yield curve may become fully inverted this spring, with the bondequivalent yield on 3-month Treasury bills above that of 30-year bonds. This inversion will reflect two factors: (1) a view that the Federal Reserve has taken actions to prevent a further acceleration of inflation; and (2) the belief that the current level of short-term interest rates cannot be maintained and that a weakening economy will reduce rates in the future.

In late 1987 and early 1988, we believed the steep yield curve at that time would not be sustained. In the past year, the curve has indeed flattened, with long-term rates moving lower and short-term rates rising sharply. We now view the flatness of the yield curve as unsustainable. Either long-term interest rates must rise appreciably or short-term rates must fall. We believe that most of the steepening will take place through a sizable drop in short-term interest rates.

Long-term interest rates have probably already reached their highs for this cycle. We expect the yield on 30-year government bonds to ease from slightly over 9 percent currently to an 8.15 percent average in the fourth quarter. Unless investors can be convinced that the Federal Reserve can and will reduce inflation below a 4 percent – 5 percent rate, long-term rates will probably move back towards the 9 percent level by the end of 1990. This would, however, contrast with the over 10 percent rate recorded prior to the stock market crash in October 1987.

Mortgage rates on a 30-year, fixed-rate basis are likely to move from about 10.8 percent early in 1989 to approximately 9.75 percent by year-end. Mortgage rates would then rise gradually to about 10.5 percent by the end of 1990.

HEINEMANN ECONOMIC RESEARCH MEMORANDUM

H. Erich HEINEMANN

Ladenburg, Thalmann & Co., Inc.

Recession in 1990

The principal forces that are likely to shape the performance of the U.S. economy over the next two years are now in plain view. Federal Reserve actions have resulted in a substantial deceleration of monetary growth since early in 1987. As a result, growth should begin to decelerate in the second half of 1989. Our Baseline Forecast for 1989–1990 (see the attached table) indicates that the economy is likely to experience a mild recession during the first half of 1990.

The Labor Department's report on the employment situation in February may be a harbinger of the slowdown. Despite a sharp drop in the reported unemployment rate (largely due to a spurious contraction in the labor force), total employment rose a scant 130,000 last month (one-tenth of one percent). Employment in manufacturing posted a small decline, and average hours of work were unchanged. Retail trade, services, and state and local governments accounted for virtually all the increase in jobs.

Wall Street's knee-jerk reaction to the drop in the unemployment rate (a sharp drop in equities and both short- and long-term debt) badly misread the report. The data indicate that industrial production has begun to slow, and that the remaining growth in employment is heavily concentrated in the lowest skilled, lowest paying jobs.

On sheer momentum alone, the economy should post substantial gains in the first half of 1989. Further ahead, however, we see a modest economic contraction implicit in recent central bank policy moves. The most telling indicator of Fed policy is the marked slowdown in the growth of total reserves held by U.S. banks since April 1988. So long as economic growth remains strong, Fed policy will not ease. But we think the risk of significant further tightening has receded.

Downside Risk

Our forecast of a mild recession could be in jeopardy were the Federal Reserve to overplay its hand and keep money too tight for too long. In that case, a sharp drop in the economy could develop. The probability that this will occur is low, but it is not insignificant. The SOMC should monitor Federal Reserve actions closely and, if necessary, be prepared to issue an

appropriate warning prior to the Committee's next scheduled meeting in mid-September.

Under such circumstances, our expectation of a comparatively "soft landing" for the economy would go out the window. The Fed would be under intense pressure to reverse course and reflate the economy. The pattern of stop-go monetary policy — the Fed's traditional trade mark — would be perpetuated. This would impose needless costs on the economy. It would also tend to raise the expected rate of inflation over the long run.

Evidence of an impending slowdown is beginning to accumulate. Not only has the Commerce Department's newly-revised index of leading economic indicators slowed decisively, but consumers have turned cautious. Real wages rose at an annual rate of about 4.7 percent from June through January, but real consumption of goods went up only 1.2 percent. The savings rate has rebounded smartly.

If growth in employment continues to slow, as we anticipate, the cautious attitude among consumers will intensify. By the fourth quarter of 1989, or the first quarter of 1990 at the latest, personal consumption should begin to decline (see the forecast table).

Business Investment is Vulnerable

The capital goods market is sitting on a huge backlog of unfilled orders at present. However, keep in mind that more than half of that total (\$98-billion out of \$180-billion) represents orders for commercial aircraft. The backlog for all other kinds of capital equipment (from computers to earth movers to railway cars) amounts to less than four months' shipments. As a result, we think that business fixed investment will prove vulnerable to signs that final demand is starting to slip.

The reported rate of inflation has begun to accelerate in recent months, a phenomenon typical of the latter stages of a cyclical expansion in the American economy. The increase in inflation reflects lingering aftereffects of excessive expansion in the U.S. money stock in 1985 and 1986. Because the monetary authorities took preemptive action to contain these price pressures long before they became obvious, inflation is not likely to accelerate for an extended period.

The Coming Bull Market in Bonds

Participants in financial markets appear to have discounted such an outcome. Thus, while short-term interest rates should continue to increase for the next several months, long-term rates are likely to remain close to present levels until the summer. Thereafter, long rates should decline substantially. The yield on 30-year Treasuries, currently above 9 percent, should drop below 7.75 percent by next winter.

Common stock prices normally post a meaningful decline in anticipation of an economic recession. In this case, however, any further slump (beyond the market meltdown in October 1987) may well be modest. There are two reasons for such an outlook: First, the decline in corporate profits in 1990 is not likely to exceed 10 percent, far less than the downturns that have been characteristic of earlier postwar recessions. Second, falling inflation and falling interest rates should act as an antidote. Earnings per share are likely to fall, but price/earning ratios may well rise.

The foreign exchange value of the dollar is likely to be volatile during the forecast period (1989–1990). During the first half of 1989, the combination of tight monetary policy and high real rates of return on dollar-denominated assets should act as a magnet for overseas investors. The Federal Reserve's trade-weighted dollar index should remain close to its February average of about 96.5.

Under the present policies, central banks are likely to intervene to prevent the dollar from moving even higher. Such intervention, if undertaken, should have only a temporary effect on the foreign exchange market. However, if our forecast is correct, the real return on dollar assets should decline during the summer and autumn. At that point, Fed policy should begin to ease. We think that in such an environment, the dollar is likely to weaken and to continue to decline through much of 1990.

International Stabilizer

Improvement in the deficit in U.S. international payments stalled during the second half of 1988. "Net exports," as defined in the national income accounts, were at a negative \$103.3-billion annual rate in the fourth quarter of 1988, a deterioration of more than \$10-billion from the level posted last spring. Further gains in U.S. trade performance are not likely in the absence of some slowing of domestic demand.

When economic growth does decelerate, however, significant changes are very probable. Imports should grow less rapidly over the next two

years (and may even decline). Exports should pick up considerably as domestic capacity is freed to service markets overseas. Overall, the trade deficit should gain by more than \$30-billion between second quarter 1989 and second quarter 1990. International trade should play a major role (in fact, the major role) in limiting the 1990 downturn.

Widespread deterioration in the quality of credit — best illustrated by ongoing problems involving the savings and loan industry and the heavily indebted nations in Latin America — is high on the agenda of critical issues confronting the Bush Administration.

A mild business downturn may well exacerbate the problems the Administration has inherited, but it should not render them insoluble. Our forecast assumes that these financial concerns, serious as they are, will remain isolated from the overall economy. They are not likely to represent a material constraint on the conduct of monetary policy nor on the rate of economic growth that would otherwise occur.

Battered Budget

The federal budget, by contrast, is likely to suffer substantially if economic growth falls short of the optimistic scenario outlined by the Reagan and Bush Administrations. On the basis of the national income accounts, the federal deficit — including the "surplus" in Social Security — was at an annual rate of about \$123-billion in the third quarter of 1988. (Data for the fourth quarter have yet to be published.)

The Baseline Forecast indicates that growth in GNP should exceed 4 percent in the first half of 1989. If this is correct, then the red ink flowing out of the Treasury may dwindle to a mere trickle of \$110-billion this spring. Subsequently, however, the deficit is likely to show a major increase — to an annual rate of more than \$130-billion in the fourth quarter of 1989 and close to \$180-billion by the end of next year.

Tax receipts will weaken as the rate of growth in income slows. Expenditures will rise as contracyclical income maintenance programs automatically kick into action. The Gramm-Rudman "budget balancing" program (which may well have hindered the budget process more than it has helped) will likely be suspended. Improbable as it may seem, members of Congress may actually be forced to make some difficult political decisions about fiscal policy.

While our forecast is far from the typically "soft landing" scenario, it nonetheless represents a relatively benign outcome. It is driven by actions that have already occurred. Fed policy has been tight for a long time. In

time, the economy will slow. If the Fed sticks to a policy of moderate, stable expansion in money, over the long run the economy will prosper. But if the authorities deviate — either by freezing money or by bringing it to a boil — the economy will suffer. Alan Greenspan has made an excellent start. Let's hope he keeps up the good work.

HEINEMANN ECONOMIC RESEARCH

Baseline Forecast - March 1989

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THE ROOMOMY:												
Gross Antional Product (\$82)	4029.6	4084.0		4139.7	4140.0	4112.6	4090.9	4129.4	4180.8	3 995 . I	4121.1	4128.4
Pot Chg	2.0	5.5	3.7	1.6	0.1	-2.6	-2.1	3.8	5.1	3.8	3.2	0.2
Porsonal Consumption (\$82)	2626.0	2646.2	2664.6	2676.7	2680.0	2676.5	2671.0	2683.5	2704.5	2592.2	2666. A	2683.9
Pet Chg	3.6	3.1	2.8	1.8	0.5	-0.6	-0.8	1.9	3.2	2.8	2.9	0.6
Business Investment (\$82)	409.2	601.4	613.2	523.0	627.0	612.1	491.8	197.2	511.6	487.0	616.4	503.2
Pet Chg	-1.6	10.4	9.7	7.9	3.7	-11.4	-16.0	4.5	12.2	9.4	6.0	-2.A
Prod. Dur. Rquip. (\$82)	3 63.6	374.4	383.5	392.6	397.7	389.0	376.0	383.8	396.5	361.8	387.0	386.1
Pet Chg	-5.9	12.5	10.1	9.7	5.4	-8.5	-13.6	9.7	13.9	13.2	7.0	-0.3
Rosidentini Invest. (\$82)	196.6	198.6	196.2	193.3	104.0	182.6	195.5	191.4	198.6	191.8	193.0	[89.5
Pet Chg	10.9	4.1	-4.B	-5.7	-17.9	-3.1	6.6	13.4	15.9	-1.6	0.6	~ (. B
Change in inventory (\$02)*	19.0	36.0	41.9	26.6	15.2	0.2	-14.9	-2.6	1.5	26.8	29.9	-4.0.
Not Exporta (\$82)	-103.3	-106.4	-106.6	-99.7	~91.8	-98.2	-76.3	-81.3	-86.l	-99.7	-101.1	- H3.0
Government Purchases (\$82)	802.1	800.2	812.7	818.H	824.6	829.5	833.9	841.1	850.7	797.1	816.3	838.8
ict Chx	6.3	3.1	2.3	3.0	2.9	2.4	2.2	3.5	4.6	1.7	2.4	2. B
Finni Domestic Sales (\$82)	4113.9	4164.4	4186.5	4211.8	4216.4	4200.6	4182.2	4213.2	4265.4	4068.0	4192.3	4215.4
Pet Chg	3.3	4.0	3.1	2.4	0.4	-1.6	-1.7	3.0	5.0	3.1	3.l	0.6
Grose Nat'l Prod. (\$ Current)	4996.2	5127.G	5242.8	6347.0	5441.6	5494.1	5545.4	5855.7	5780. I	4863. L	5289.A	5618.B
ret the	7.2	11.0	9.3	8.2	7.3	3.9	3.8	8.2	9.1	7.4	8.6	6.2
Disposable Income (\$62)	2833.1	2864.2	2806.9	2891.7	2880.2	2060.8	2850.1	2876.1	2909. L	2789.5	2889.7	2874.0
Pet Chg	4.8	4.6	3.2	0.7	-1.6	-2.7	-1.5	3.7	4.7	3.6	3.3	-0.2
Savings Rate (Percent)	4.5	4.8	4.9	5.0	6.3	4.8	4.6	4.6	4.4	4.2	5.0	4.6
Operating Profits (\$ Current)	341.3	355.9	368.1	373.3	366.1	345.2	311.9	318.1	337.0	328.5	366.9	328.0
Pet Chg	14.4	18.3	14.4	5.8	-7.6	-20.9	-33.4	8.2	26.0	6.8	11.4	-10.3
Industrial Frod. (1977=100)	139.8	141.4	142.0	143.6	143.7	140.2	136.0	137.2	139.8	137.1	142.9	138.3
Pet Chg	4.8	4.0	4.1	2.1	0.4	-9.6	-31.6	3.7	7.9	5.6	4.2	-3.2
Rouning Starts (Mill. Units)	1638.3	1542	1613	1469	1394	1377	1426	1522	1691	1490.3	1479	1479
Pet Che	22.5	1.0	-7.4	-11.4	-18.5	-6.1	15.2	29.8	(9.3	-8.8	-0.7	-0.0
Auto Snimm (Hillion Unitm)	10.497	10.6	10.8	10.6	10.1	9.6	9.4	9. R	10.4	10.643	10.6	9.8
Pot Cha	-6.0	6.9	6.6	-7.6	-18.4	-18.6	-7.7	21.7	27.3	3.5	-1.2	-6.8
Total Employment (Millions)	116.9	116.5	117.0	117.3	117.5	116.9	116.6	117.6	118.4	116.0	117.1	117.3
Pet Chg	2.4	2.2	1.1.0	1.0	0.6	~1.9	~0.9	2.9		2.2	1.8	0.2
Unemployment Nate (Percent)									3.2		5.3	6.6
Cosp. For Nour Hon-Farm Dus#	5.3 202.2	5,2 205.4	5.2 209.0	5.4	6.6	6.1	6.8	6.9	6.6	5.5 198.2	210.7	222.4
·				212.7	215.9	218.7	221.3	223.6	226. l		-	
ret Chg	6.7	6.6	7.1	7.3	6.1	5.3	4.9	4.1	4.5	4.7	6.3	5.6
Productivity Mon-Form Busts	110.7	111.0	111.4	111.5	111.3	111.2	111.1	111.3	111.7	110.6	111.3	111.3
Pet Chg	0.0	1.2	1.4	0.5	-0.8	-0.5	-0.2	0.7	1.4	1.5	0.7	0.0
Unit Inbor Cost Non-Form Busse		185.0	107.0	190.7	193.9	196.7	199.2	200.0	202.4	179.3	189.3	199.B
Fet Chg	5.6	5.3	6.6	6.8	7.0	6.8	5.2	3.4	3.1	3.2	5.6	5.5
GMP Boflator (1982=100)	124.0	126.6	127.2	129.2	131.4	133.6	135.6	137.0	130.3	121.7	128.3	136.1
ret Chg	6.1	5.2	5.3	8.4	7.1	6.7	6.0	4.2	3.8	3.5	5.4	6.0
CPI Lens Ruergy (1982-84=100)	124.7	126.3	128.0	130.0	132.1	134.2	136.0	137.5	138.9	122.4	129. J	136.6
ret Chg	5.3	6.0	6.6	6.3	6.8	6.3	5.7	4.4	3.9	4.1	5.4	5.9
Federal Deficit (1 Current)	-119.8	-116.2	-110.4	-119.9	-133.0	-142.3	-147.9	-160.6	-178.1	-132.9	-119.9	- 167.2
FINANCIAL MARKETS:												
Federal Funds Rate	B. 47	9.3	10.0	9.8	8.B	B.2	7.4	7.7	7.9	7.6	9.5	7.11
Thron-worth Billa (Discount)	7.72	8.6	9.1	8.9	0.1	7.4	6.7	7.0	7.2	6.7	8.6	7.1
Prima Rote, Major Banks	10.18	11.1	11.5	11.0	9.9	10.0	8.9	8.9	9.0	9.3	10.9	9.2
30-Year Trendury Bonds	n.97	9.1	9.3	я.в	8.0	7.7	7.8	7.9	Ħ. 2	g. 0	8.1	7.9
Money Supply (M-1, \$ Current)	787.4	792.2	797.6	809.4	825.1	841.5	860.0	877.0	892.9	776.0	806.1	867.B
Pct Chg	2.3	2.5	2.7	6.1	0.0	8.2	9.1	8.1	7.4	4.3	3.9	7.7
Velocity (Ratio: ONP TO M-1)	6.344	6.473	6.673	6.608	6.595	6.529	6.448	6.449	6.474	6.266	6.562	6.476
Pet Chg	4.8	8.4	6.4	2.0	-8.7	-3.9	-4.9	0.1	1.5	3.1	4.7	-1.3
Trade-Weighted \$ (1973=100)	91.0	94.6	96.6	94.6	91.6	80.7	86.9	86.9	83.4	92.5	94.3	86.5
Memo: GGC Purchanes	-10.3	-5.0	3.9	-0.3	3.6	-2.0	4.9	2.3	-3.9	-15.7	0.6	0.3
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Federal Reserve Bank of St. Louis

THE INTERNATIONAL DEBT PROBLEM

Allan H. MELTZER Carnegie Mellon University

The U.S. Treasury's policy toward the international debt of developing countries has some of the main features of the failed approach toward the thrift industry. Since 1982, the Administration approached both problems with optimistic public assessments of the prospects for improvement, while it permitted inaccurate accounting and delayed the search for a lasting solution. The thrift crisis ended with a massive shift of liabilities to the taxpayers. The risk is that the international debt problem will end the same way.

Banks have been encouraged to carry their international debt at face value and to report interest as paid even if the interest payment was obtained by making additional loans to the debtor countries. At Seoul in 1985 Secretary Baker offered additional loans to countries that reformed their economies so as to promote efficiency and growth. Fifteen countries, known as the Baker 15, were given special attention. Since 1985, the interest rates on new commitments received by private creditors have been lowered and, in many cases, now differ little from the rates charged by international agencies despite the subordinate position of private debt. A few countries implemented reforms but most did not, and the growth of GNP for the group remained low.

What Happened?

The most important change in recent years has been the rising direct or indirect role of governments and international agencies and therefore of taxpayers. The rise in loans by international agencies has required increases in the capital of the International Monetary Fund and the World Bank, and further increases have been proposed.

These increases might be justified by evidence that the U.S. Treasury and the international agencies have a coherent plan for bringing the debt problem to an end within a reasonable time. The Baker Plan was not such a plan, and the current proposals by the Treasury do not fill the gap. In this respect, also, the debt problem is disturbingly similar to the experience that led to the savings and loan bailout.

There is a fundamental flaw in a system that encourages lenders, whether private or public, to continue lending when the market value of the loan instantly falls to a substantial discount. Loans of this kind might be justified

for a brief period, as in 1982, while a proper course is decided. To continue such policies for more than six years is a wasteful blunder.

The principal banks recognized the problem quickly. Since 1983, their net loans to the Baker 15 have been less than the interest payments they received. By reducing their lending and using debt equity swaps and other methods of debt conversion to reduce their outstandings they have systematically reduced the amount of their net flows to the debtor countries \$15 to \$20 billion below their annual interest receipts. Nevertheless, the dollar value of the debt continued to rise for two principal, but very different, reasons. First, governments and the World Bank have increased their loans. Second, part of the debt is denominated in SDRs and foreign currencies, so the dollar value of the debt increased with the depreciation of the dollar.

To understand what has happened to lending, we should concentrate on net flows and transfers, not the dollar value of the debt. Table 1 makes this comparison.

Table 1
Growth of Debt, 15 Baker Plan Countries
in Billions of Dollars

	1981	1982	1983	1984	1985	1986	1987
Outstanding Debt	\$345.0	384.8	414.4	430.7	473.0	518.1	
Change in Debt	60.7	39.8	29.7	16.3	15.0	27.3	45.1
Net Flows	26.1	29.2	20.0	14.5	7.2	6.0	7.7
Official Creditors	5.4	5.1	5.1	5.7	4.4	6.3	5.2
Private Creditors	20.7	24.1	14.8	8.8	2.8	-0.2	2.5
Interest Payments	17.0	20.6	20.0	22.8	25.1	24.2	22.6
Official	2.3	2.7	2.8	3.3	3.8	5.2	6.0
Private	14.7	17.9	17.3	19.5	21.2	19.0	16.6
Net Transfers	9.1	8.7	-0.1	-8.3	-17.9	-18.1	-14.9
Ratio Debt/Exports	2.0	2.6	3.0	2.8	3.0	3.5	3.6

Source: World Bank

Official creditors have been slower to reduce new lending. Their net payments continued to exceed their rising interest receipts until 1987. This has contributed to the increased share of the debt now held by official creditors. Since the public creditors typically have a preferred claim, the quality of the private debt declines as the public creditors share rises.

Until there is a change in policy, the two trends of the 1980s are likely to continue. First, private lenders will try to withdraw funds from debtor countries; their interest receipts will exceed their net flow. And their net

flow will be small and, where possible, negative. Second, a rising share of the debt will be owed to official lenders, so taxpayers in the creditor countries will take on an increased burden.

A third trend, shown in the table, is the rising ratio of debt to exports. For the Baker 15, this ratio has increased steadily in the 1980s. A rule of thumb, widely used in the market, suggests that a ratio of 2 is near the outer limit at which countries can manage their debt without assistance, reschedulings and other interventions. Moreover, the average conceals the deterioration experienced by some large debtors. Argentina had a debt export ratio above 4 in 1982 and above 6.5 in 1987.

Every dollar of additional debt requires a country to raise exports permanently to service the debt. New lending that helps a country pay its outstanding interest adds nothing to the productive resources available to the country, so lending to pay interest postpones and worsens the problem for the future.

One fact, of great importance, is not shown in the table — the net assets owned by citizens of the debtor countries but held abroad. Estimates vary, but there is evidence that the amount of such assets for many of the so-called debtor countries is from 50 percent to 90 percent of the value reported for the debt. Omitting the assets blinds us to what has happened. It is as if we looked at the financial position of a typical American family by considering their home mortgage and auto loans while ignoring the value of the underlying assets.

The single most important source of capital for many of the debtor countries is the assets their citizens own abroad. Until they adopt policies that encourage their own citizens to repatriate capital and invest at home, it is hard to see why taxpayers in the U.S. or other developed countries should make new loans or guarantee repayment.

The central problem is reform — credible reform of the debtor countries economies to reduce subsidies, privatize parastatal industries, increase efficiency, align exchange rates, remove price and wage controls, control inflation, eliminate import substitution and protection, and foster competition and market discipline.

The Baker Plan did not fail because the case-by-case method or the idea of promoting growth and efficiency was flawed. The failure lies in the execution. The Treasury never developed a program to encourage efficiency, growth, and capital repatriation. It has not done so now.

The new Treasury proposal calls for writing down the debt and talks of some type of guarantee on the remainder. A guarantee requires the tax-payers to underwrite past mistakes of the bankers and regulators and the mistaken policies of the debtor countries.

Reform Proposals

Most proposals for reform call for some type of forgiveness of interest or principal or some facility that uses the public's money to buy up some of the outstanding debt. These proposals introduce perverse incentives and do little to encourage the types of reform required in the debtor countries.

The lesson of debt reductions or forgiveness granted by official lenders and paid for by taxpayers is that the debtor countries have much more to gain from waiting for the creditors to forgive the debt than from making the painful reforms that promote growth and efficiency. As the creditor governments tire of the problem, the pressure for forgiveness or reduction rises. Once granted, the principle of forgiveness is established. The payoff for delaying reform in the debtor countries rises. And, without reform much of the new lending, like the old, will flow abroad. We lend money to foreigners to buy assets here and elsewhere, then we forgive the debt. We borrow abroad, or sell our assets to foreigners, to finance part of the loans.

Under the Baker Plan, the banks waited for the IMF, World Bank or U.S. Treasury to arrange financing that permitted the debtors to pay the interest and service the outstanding debt. Only after such agreements were in place would the banks agree to negotiate terms of new loans and rescheduling of outstanding loans. The banks had little incentive to recognize that the market value of the debt was less than the face value. The official agencies worked to keep the debt service current, so debt would not have to be written down. The banks usually received interest payments when due, or within a few months of the due date. On balance, their repayments and reductions exceeded their new lending, and their interest receipts increased their reported incomes by \$20 to \$25 billion per year.

The proponents of a change in debt strategy are right to insist on an end to this policy but wrong when they urge greater involvement by governments and international agencies. The most urgent task is to get the incentives for creditors and debtors right.

The first step is to introduce greater incentives for reform. This can be done by tieing any net new lending by official agencies to reform. Specific targets, applicable to each country should be set — the number of state industries sold, the amount by which subsidies are reduced, the number

of prices decontrolled (weighted by their importance in the consumption or production basket), etc. Payments should be made for performance — for agreements carried out and sustained. With reform and a hospitable environment, flight capital will return. This is the key to success.

Second, the official agencies should leave the payment of interest on old debt to be negotiated by the debtors and creditors. The mistakes of the past should be settle by those who made them. With the official agencies no longer serving as interest collectors, the banks would have heightened incentives to negotiate about the value of the debt. Debtors have concern for their credit rating, a concern that is enhanced by the fact that any borrowing from private lenders in the future must be subordinate to the debt currently outstanding. They, too, have incentives to resolve the debt problem.

Markets have known for years that the outstanding debt will be written down. The U.S. government and the international agencies have squandered resources by failing to recognize this fact. Their error is a failure to consider the incentives implicit or explicit in the programs they adopt. We are about to make another costly mistake. This time the taxpayers should insist on reforms that get debtors and creditors working toward resolution while avoiding a new bailout or guarantees financed by U.S. (and other) taxpayers.

THE BUSH ADMINISTRATION'S PROPOSALS TO RESCUE AND REFORM THE S&L INDUSTRY

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Among the Bush Administration's proposals to rescue and reform the S&L industry are the following provisions:

- Closing or merging over the next three years 350 insolvent thrifts as well as 150 marginally solvent ones plus any additional thrifts that become insolvent from 1992 to 1999.
- Recapitalizing the insolvent FSLIC, which will be managed by FDIC and renamed the Savings Association Insurance Fund (SAIF), and placing the Home Loan Bank Board under the direction of the Treasury.
- Creation of a government-sponsored but privately-owned agency, the Resolution Funding Corporation, which will be off-budget, to issue \$50 billion of long-term bonds, the principal of the bonds to be guaranteed by an estimated \$2.9 billion in annual earnings of the regional home loan banks and part of the insurance premiums paid by thrifts, an estimated two-thirds of the interest payments on the bonds to be paid by the Treasury, the rest by funds raised by liquidating the assets of insolvent thrifts and, after 1992, by an estimated \$300 million in annual earnings of the regional home loan banks.
- Raising immediately thrift insurance premiums to 23 cents per \$100 of deposits from 21 cents (compared to an increase in bank premiums
 — that are not to be used to pay for the thrift rescue from eight to 15 cents per \$100 of deposits), with authorization for further increases if the total of either insurance fund or the two funds combined falls below 1.25 percent of insured deposits.
- Assuring liquidity for any thrift, in case of a run on its deposits, even if it has no acceptable collateral for an advance, with the Federal Reserve providing 45 percent of the funds as a backup to the regional home loan banks, which normally serve thrifts and would provide another 45 percent, and the Treasury, which would participate in the program by a \$750 million line of credit or provide 10 percent, the Fed advances to be guaranteed by FSLIC or its successor insurance fund.

- Requiring thrifts to meet banking industry capital standards of 6
 percent of assets by 1991, with those not in compliance by that date
 forbidden to grow.
- Restricting investments by both state- and federally-chartered thrifts, although state-chartered institutions with more liberal powers could meet standards of the FDIC, which would be overseeing them, if they were separate subsidiaries of thrift-holding companies.

The Administration's proposals have been submitted in a formal draft bill that was introduced into the Senate by the chairman of the Banking Committee. Although there is now a sense of urgency to deal with S&L problems, there will be delays in implementing the plan because it is complicated and because questions have been raised regarding its details and estimates of its cost.

One question relates to the realism of the number of S&Ls that the Administration proposes to liquidate or merge in the next three years: 350 institutions that are insolvent by regulatory accounting standards and 150 that have no tangible net worth. In addition, however, there are probably 500 institutions with capital less than 3 percent of assets under general accounting standards, or operating at a loss, or with earnings so low that a sound future for them is problematic. How many of these could both meet the new capital standards and higher insurance premiums is another imponderable.

There is considerable doubt that the FDIC is equipped to fill the role assigned to it. On orders of the President, the FDIC is to take control of insolvent S&Ls, putting those already under Bank Board supervision into conservatorship. As of March 3, 73 (or 72 in a variant account) institutions had been placed under the supervision of regulatory teams of the FDIC, with more to be added in coming weeks. In a conservatorship, deposits up to \$100,000 are still insured, the regulators monitor new loans and interest rates paid on deposits but, until Congress has approved the President's plan, no sales of troubled real estate will be executed. The FDIC, at present hobbled by an inadequate staff of examiners to deal with the demanding problems of the banking industry, is now expected to cope with the added responsibilities of resolving the problems of an even larger case load of insolvent thrifts. It has borrowed examiners from the Fed and the Comptroller of the Currency's office, and temporarily reassigned regional senior officials to thrifts around the country.

The merit of issuing the Resolution Funding Corporation bonds rather than Treasury bonds, which it is estimated would pay a one-quarter percent higher interest rate, has been challenged, as has also the off-budget treatment of the bond sale. That arrangement has been defended on the ground that the bond sale will not crowd out private borrowing, but merely transfer capital from bond buyers to thrift depositors. Martin Feldstein, who offers this defense, nevertheless, believes it would be preferable to avoid the precedent of a special off-budget corporation that might be inappropriately used in the future. Accordingly, he would drop the Resolution Funding Corporation from the plan, and have the Treasury borrow the \$50 billion, which would be included in the budget but not in the Gramm-Rudman calculations.

Thus far discussion of the proposals to reform the industry has been limited. Is the 6 percent capital requirement goal sufficient? How will regulators respond if the ratio drops below the requirement?

The Administration's estimate of the cost of the plan is now \$156.7 billion over ten years, of which it projects the Treasury will pay \$40 billion. Estimates by others of the total cost and especially the taxpayers' share are higher, with the following variables in dispute:

- the number of institutions assumed will be closed or merged;
- the expense incurred for every dollar of assets of closures and of mergers;
- the market values of the thrifts' assets;
- the interest rate assumption underlying market values;
- the size and the growth rate of the deposit base assumed for calculating premium income; and
- the cost of servicing the debt that will be created to recapitalize FSLIC and finance the industry-wide reorganization.

The cost estimates, given the number of unknowns, are at best guesses, especially so when extended over the 30-year period until the bonds mature.

Though the SOMC in a recent policy statement rejected the suggestion that taxpayers would be saddled with the cost of eliminating the zombie thrifts, that will be the undoubted outcome, with healthy thrifts contributing only a mite. They are lobbying Congress to minimize, if not to eliminate, the share of the cost the Bush plan proposes to impose on them.

There is widespread agreement, however, that the sooner the S&L problems are resolved, the lower will be the ultimate cost. It has snowballed because of regulatory forbearance in the 1980s and government delay in dealing with the industry's problems. The end result of Congressional hearings on the Bush plan should be adoption of provisions that get rid of dead and dying thrifts and put in place lasting reform of the industry.

IT'S HARD TO GET EXCITED ABOUT THE BUDGET OUTLOOK

Mickey D. LEVY First Fidelity Bancorporation

President Bush's budget, Building a Better America, establishes the President's social agenda by proposing small outlay increases on a broad array of programs. It reconciles the agenda on paper with the deficit restraints imposed by Gramm-Rudman-Hollings by using overly favorable economic assumptions, a flexible freeze on certain spending programs, and a capital gains tax cut that generates higher revenues throughout the projection period. The Administration's approach to selling this budget proposal is to emphasize the dollar increases in outlays over FY1989, while eschewing the current services approach, which reveals spending cuts from current law.

Of course, GRH requires only that budget projections, and not actual budget outcomes, meet the deficit targets. And that is what the President's budget accomplishes; the actual deficit is not likely to fall to the GRH targets. By itself, this does not imply economic failure. Moreover, recent experience suggests that the political fallout from not achieving the deficit targets is minor. The Bush budget is successful insofar as it provides some funding for the President's stated social agenda, and it does not propose a tax increase that would be potentially damaging to the economy and U.S. international competitiveness. The real failure of the Bush budget is that it places Social Security out of bounds, and barely touches the other non-means-tested entitlement programs, allowing their outlays to continue to increase rapidly in real terms and as a share of total budget outlays. In doing so, the budget continues to hide from the fact that unless the non-means-tested entitlement programs are restructured and savings are generated, costly economic inefficiencies will mount, many other well intended programs will suffer, deficits will remain high, and political pressures to raise taxes will persist.

According to President Bush's budget, in FY1989, outlays will rise 8.0 percent and receipts 7.7 percent. The budget deficit, excluding proceeds from asset sales, will rise to approximately \$170 billion from \$155 billion in FY1988. This is \$47 billion higher than President Reagan forecast in the Mid-Session Review in July 1988, and \$34 billion higher than the GRH target. The CBO baseline budget forecasts 7.0 percent growth in outlays, 8.1 percent growth in receipts, and a FY1989 deficit of \$155 billion. A sizeable portion of the difference between the CBO and Administration

can be explained by the estimates and budget treatment of the costs of the savings and loan industry restructuring.

President Bush's budget proposes a dramatic cut of \$70.4 billion in the deficit to \$94.8 billion in FY1990 (the GRH target is \$100 billion) through a sharp slowdown in the growth of spending outlays (0.9 percent) and an acceleration (8.8 percent) in tax revenues. In FY1991-FY1993, President Bush proposes 3.4 percent average annual nominal spending growth and a declining deficit that remains below the GRH targets. This budget path is achieved by (a) accepting all of President Reagan's proposed cuts in discretionary spending programs except the proposed cuts in Medicaid; (b) reducing President Reagan's proposed 2 percent annual rise in real budget authority for defense to unchanged in FY1990 and approximately 1 percent annual growth thereafter; (c) freezing at FY1989 levels outlays for a wide variety of domestic programs that account for approximately 12 percent of total budget outlays; (d) a cut in the capital gains tax rate, which the Administration estimates will generate substantial additional revenues throughout the projection period; (e) \$12 billion outlay increases in a wide variety of programs, including the space initiative, Medicaid, drug enforcement, international affairs, air traffic control, Census Bureau, education, AIDS research, the homeless, atomic energy cleanup, the environment, and basic research; and (f) very favorable economic assumptions.

This proposal meets the GRH deficit target requirements for FY1990 and beyond, but do not expect it to become a reality. Anticipated legislative roadblocks, higher-than-expected expenditures on the S&L industry restructuring, and a less optimistic economic environment could substantially raise outlays and suppress tax receipts from this proposed path.

The Bush Administration attempts to refocus attention on the amount of spending increases over the FY1980 outlay levels, while downplaying the traditional current services budget approach. In reality, however, it is impossible to get away from the current services baseline, simply because the proposed flexible freeze and reduced spending in certain discretionary programs requires new legislation. While many of the proposed program savings make sense economically, the Congress may not approve. Moreover, the President's proposed tax cut on capital gains is controversial, both because the Administration estimates that it will sufficiently stimulate investment and generate substantial increases in tax revenues throughout the projection period, and because of the perceived distribution of the tax benefits. Congress may require higher personal tax rates as a quid pro quo for the capital gains proposal, which is not an acceptable tradeoff.

The Administration's budget includes net outlays of \$27.3 billion from FY1989 to FY1993 for reforming the S&L industry, but the actual federal outlays are likely to be substantially higher. This will add substantially to the budget deficit, especially if all of the net interest outlays on the additional Treasury debt for the bailouts are placed on-budget. This more realistic forecast is based on a less favorable economic environment, the inversion of the yield curve, slower-than-expected growth in S&L and bank deposits (the Administration assumes 7 percent annual deposit growth in S&L; recently, deposits have been declining sharply), and an aggressive federal pursuit of failing S&Ls.

Finally, the Administrations' budget relies heavily on favorable economic assumptions that are not likely to occur. It forecasts 3.3 percent annual real GNP growth through 1994, with no recession. Implicit in this forecast is 1.9 percent average annual gain in productivity. (This is the same as average annual productivity increase from 1948 to 1981, but significantly higher than the 1.4 percent annual gain from 1981 to 1988.) The Administration also forecasts continuous sharp declines in inflation and in nominal and real interest rates.

The recent monetary tightening and sharp slowdown in export and capital spending growth point to sharply slower economic growth than the Administration forecasts in 1989–1990. Moreover, the projected declines in real interest rates are inconsistent with sustained strong economic growth driven by rising productivity gains. An internally consistent forecast involving either slower economic growth or higher real interest rates would generate a steep increase in projected deficits.

Based on less favorable economic assumptions and technical re-estimates of the President's budget, the CBO estimates significantly faster spending growth in FY1990, particularly for the S&L bailout, and a deficit of \$131 billion, \$39.9 billion higher than the Administration. The deficit forecasts of Administration and CBO diverge over the projection period. Most of the difference can be explained by the CBO's higher spending estimates for net interest outlays and the federal restructuring of the S&L industry, and placing on-budget the full costs of the S&L bailout.

A sharp slowdown in economic growth or a recession, as suggested by recent inflation pressures and monetary tightening, would generate a significantly higher deficit than forecast by either the CBO or Administration. For example, if real GNP growth averaged 1.5 percent in 1989–1990, rather than the 3.5 percent forecast by the Administration, and interest rates on 3-month Treasury bills receded to 5.5 percent as the Administration forecasts (a reasonable assumption), the budget deficit would likely remain

above \$150 billion in FY1990 and FY1991, even with the enactment of the President's legislative agenda.

Try as it may to be different, the Bush budget proposal is all too similar to recent budgets — and even the thrust of GRH — by excluding from the budget debate Social Security and other non-means-tested entitlement programs, while proposing incremental changes to the other programs considered more "discretionary." Steering attention away from these entitlement programs, which constitute such a large portion of budget outlays, is a mistake. Considered separately, these programs would benefit significantly from restructuring. Moreover, this uneven approach to budgeting severely inhibits attempts to reduce the deficit, and prohibits a fairer and more efficient allocation of federal spending. Locking-in more spending on transfer payments restrains federal outlays for investment, with adverse implications for long-run economic growth.

Social Security constitutes a rising portion of federal budget outlays (\$232.3 billion, or 20.4 percent of total budget outlays in FY1989), involves blatant intragenerational and intergenerational inequities, and imposes sizeable costs on the economy, including encouraging older workers to retire at the same time labor shortages constrain output in certain industries and regions. Medicare's distortive economic impacts are equally severe, and it is the fastest growing large program in the budget. Medicare outlays are forecast to rise nearly 12 percent annually through 1994, even with the adoption of President Bush's proposed modest cuts in the program. Combined outlays for Social Security and Medicare now constitute 28 percent of total federal spending, up from 25.5 percent in FY1980; the Bush budget recommends a continuation of this rising trend.

President Bush's pledge to avoid a tax increase sets up a game of "political chicken" with the Democratic Congress. Excluding Social Security, Medicare and the other non-means-tested entitlement programs from the bargaining table artificially limits the fiscal policy debate in a way that may not be in the best interest of either political party, and strains the integrity of the budget process. A deteriorating economic environment will only accentuate the flaws in the recent approach to budgeting.

Table 1 Selected Budget Projections

	1988	1989	1990	1991	1992	1993
Receipts						
President's Budget*	909.0	979.3	1065.5	1147.6	1218.6	1286.6
CBO Baseline	909.0	983.0	1069.0	1140.0	1209.0	1280.0
Outlays						
President's Budget	1064.0	1149.5	1160.4	1211.8	1249.2	1284.1
CBO Baseline	1064.0	1138.0	1209.0	1280.0	1344.0	1410.0
Deficits						
President's Budget	155.0	170.2	94.8	64.2	30.6	(-2.5)
CBO Baseline	155.0	155.0	141.0	140.0	135.0	129.0
Memo:						
New GRH Targets	144.0	136.0	100.0	64.0	2 8.0	0.0
Original GRH Targets	108.0	72.0	36 .0	0.0	0.0	_
Receipts, % Change						
President's Budget	6.4	7.7	8.8	7.7	6.2	5.6
CBO Baseline	6.4	8.1	8.7	6.6	6.1	5.9
Outlays, % Change						
President's Budget	6.0	8.0	0.9	4.4	3.1	2.8
CBO Baseline	6.0	7.0	6.2	5.9	5.0	4.9
As a Percentage of GNP:						
Revenues						
President's Budget**	19.0	19.1	19.4	19.6	19.6	19.6
CBO Baseline	19.0	19.2	19.6	19.6	19.5	19.5
Outlays						
President's Budget**	22.3	22.5	21.1	20.7	20.1	19.5
CBO Baseline	22.3	22.2	22.2	22.0	21.7	21.4
Deficit			-			
President's Budget	3.2	3.3	1.7	1.1	0.5	0.0
CBO Baseline	3.2	3.0	2.6	2.4	2.2	2.0
Publicly-held debt						
President's Budget	42.9					
CBO Baseline	42.9	42.7	42.7	42.5	42.1	41.5

^{*}Excludes asset sales
** Based on unofficial estimates of GNP levels

Table 2
Administration and CBO Economic Projections

	1988	1989	1990	1991	1992	1993
Percent Change, Fourth						
Quarter Over Fourth Quarter:						
Real GNP						
Administration	2.6	3.5	3.4	3.3	3.2	3.2
CBO	2.6	2.9	2.2			
Nominal GNP						
Administration	6.8	7.3	7.0	6.4	5.8	5.3
CBO	6.7	6.9	6.6			
CPI-W						
Administration	4.2	3.6	3.5	3.0	2.5	1.5
CBO	4.3	5.0	4.8			
Percent Change,						
Calendar Years:						
Nominal GNP						
Administration	6.6	7.4	6.9	6.6	6.0	5.5
CBO	7.0	7.2	6.4	6.5	6.4	6.4
Real GNP						
Administration	3.8	3.3	3.2	3.2	3.2	3.2
CBO	3.8	2.9	2.1	2.2	2.2	2.3
GNP Deflator						
Administration	3.4	4.0	3.6	3.2	2.7	2.2
CBO	3.4	4.2	4.2	4.2	4.1	4.1
CPI-W						
Administration	4.0	3.8	3.7	3.2	2.7	2.2
СВО	4.0	4.9	4.9	4.6	4.4	4.4
Interest Rates, Percent,						
Caldendar Year Averages:						
3-Month T-Bill						
Administration	6.7	7.4	5.5	4.5	4.0	3.5
CBO	6.7	7.9	7.1	6.7	6.4	6.1
10-Year Government Bond						
Administration	8.9	8.6	7.2	6.0	5.0	4.5
CBO	8.9	9.3	9.0	8.6	8.1	7.7
Memo:						
Inflation-Adjusted						
Rates (CPI)						
3-Month T-Bill						
Administration	2.7	3.6	1.8	1.3	1.3	1.3
CBO	2.7	3.0	2.2	2.1	2.0	1.7
10-Year Government Bond	2.1	٥.٠	4.4	4.1	2.0	
Administration	4.9	4.8	3.5	2.8	2.3	2.3
CBO	4.9 4.9	4.0 4.4	3.5 4.1	4.0	2.3 3.7	2.3 3.3
CDO	4.9	4.4	4.1	4.0	3.1	3.3

RECENT MONETARY POLICY ACTIONS AND ECONOMIC ACTIVITY

Robert H. RASCHE Michigan State University

There appears to be remarkable unanimity among assessments of Federal Reserve actions over the past six months. Growth rates of all monetary aggregates have slowed as short-term interest rates have jumped up sharply. In the six months ending last August, the Adjusted Base grew at 7.1 percent; M1 grew at 5.8 percent; and M2 grew at 5.4 percent annual rates. Last September the 3-month Treasury bill rate yielded in the 7.2 percent range. In the six months from the end of August to the end of February, the base grew at 4.4 percent; M1 grew at 1.0 percent; and M2 grew at 2.8 percent annual rates. At the beginning of March Treasury bills yield around 8.7 percent. Only the Fed's measure of "the degree of reserve pressure," adjustment plus seasonal borrowed reserves, fails to indicate a "tighter" monetary policy.

In spite of the policy actions taken, nominal spending continued to advance strongly. Nominal income, as measured by personal income, increased 8.8 percent from January 1988 to January 1989. This was accomplished by a rapid increase in base velocity (2.9 percent) and M1 velocity (5.2 percent). However, it is not appropriate to conclude from this that velocity behavior has returned to pre-1982 patterns.

The observed velocity behavior during 1988 is consistent with the short-run demand equation for the monetary base that I described at our meeting a year ago. Over the most recent 10 month period for which data are available (March 1988 – January 1989), the Treasury bill rate increased 256 basis points, while velocity base increased 1.8 percent. The increase of .7 percent per 100 basis point increase in the Treasury bill rate is almost exactly the increase in velocity attributed to such an increase in the T-bill rate by our estimated equation (.8 percent) over such a period of time. Not surprisingly, the monthly forecast errors from our base demand equation for 1988 are not large compared to the standard error of the equation and the average monthly forecast error is almost zero (-.00006). These errors are generated by parameters estimated over a sample period ending in 1981 and extrapolated assuming no steady state drift in velocity since

¹The single significant forecast error is for January 1988, when there is a very large forecast error. This is a repetition of a pattern observed in 1987. My suspicion is that there is a problem in correctly measuring the January seasonal factors for both M1 and the Adjusted Base in the most recent years.

the beginning of 1982. These parameter estimates remain stable when the sample is extended through 1988, and the residuals of the latter regression are indistinguishable from the forecasts of shorter sample periods. Thus, the data observed over the past year are completely consistent with the hypothesis that since 1982 the drift in base velocity, in the absence of changes in interest rates, is zero.

In the near future, into next summer, my best guess is that base velocity will continue to *drift upward*, even if short-term interest rates stabilize at present levels. It will take that long for the effects of the sharp increases in the T-bill rate since early November to be fully reflected in velocity behavior.

This presumes that there will be no reoccurrences of the mysterious 1982 shift in velocity drift. As a result of recently completed research, I believe that there is strong evidence in support of Bill Poole's conclusion that the equilibrium income elasticity of M1 demand is unity and the equilibrium interest elasticity is on the order of -0.6. In terms of the demand for the real base, the implied real income and interest elasticities are 1.0 and approximately -0.4. This research supports the conclusion of stable long-run demand functions for both real M1 and the real base over the entire post-accord period (53-87).²

The question is how can such a stable demand function (relating the level of real balances to the level of real income and the level of interest rates) exist over a period in which velocity looks like a random walk with a significant break in the drift? The explanation of this is presented in the note that accompanies this memo. The key factor is that when there exists a stable equilibrium demand for real balances, the drift in velocity is not independent of a drift in nominal interest rates; in fact they are two representations of the same underlying forces.

From this perspective, the hypothesis that the drift in velocity in the 80s differs from that of the previous 25 years because of a break in expectations about inflation becomes quite plausible. This is a hypothesis to which I had a strong prior attachment when I started work on my 1986 Carnegie-Rochester paper, but which I set aside because I could not find any convincing empirical support, or plausible story to connect changes in inflation expectations with the observed patterns of velocity behavior.

²Research on the inter-war period is currently in progress. Preliminary evidence supports the conclusion of a stable long-run demand function for real M1 for the 29-87 period (excluding the 42-52 period of interest rate pegging).

Suppose that the real rate of return is a random walk without drift (a frequent, but difficult to confirm proposition). If expected inflation is a random walk with drift, then in general nominal interest rates are random walks with drift equal to the drift in expected inflation. Now assume that there is a break in the drift of expected inflation. This will appear as a break in the drift of nominal interest rates, and will be mirrored in a break in the drift of velocity, so long as the equilibrium demand for real balances remains stable.

The available data on inflation expectations appear consistent with this hypothesis, though these data are too limited to allow any rigorous testing of the proposition. If this view is correct, then there should be no concern about focusing monetary policy on the growth of monetary aggregates. A monetary policy which produces monetary growth consistent with a stable inflation rate will produce stable expected inflation and will avoid the sharp breaks in velocity drift such as observed in 1982 (and perhaps also in 1946).

Conversely, central banks must exercise caution in attempting to engineer a transition from one inflationary state to another. Such actions, if they achieve plausibility, are likely to be accompanied by sharp breaks in the time series behavior of nominal interest rates, which in turn can be reflected in breaks in the drift of velocity. The break in velocity is a "Lucas effect" of the change in the expected inflation regime.

SOME EVIDENCE ON THE ELUSIVE 1982 SHIFT IN VELOCITY DRIFT

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It is well documented that in the post-Accord period in the United States, the velocity of both M1 (as presently measured) and the monetary base behaves like a random walk with drift [Haraf, 1986; Rasche, 1987, 1988]. This statistical model is stable through late 1981. Beginning in 1982, a substantial change occurs in the drift parameter. Subsequently, both measures of velocity behave like random walks without significant drift.

This "shift in the drift" is the source of the widespread conclusion that there no longer exists a stable relationship between the nominal money supply and nominal measures of economic activity. The alleged breakdown of a stable relationship between such narrowly defined monetary aggregates and measures of economic activity is the official rationale given by the FOMC for the downgrading of M1 to the status of a "monitored" aggregate and the readoption of a borrowed reserves (or free reserves) operating procedure for the conduct of monetary policy in the fall of 1982 [Volcker, 1983; Wallich, 1984; Heller, 1988].

Numerous hypotheses have been proposed as explanations for the abrupt change in the behavior of these statistics [Rasche, 1987; Stone and Thornton, 1987]. Yet, substantive explanations that are consistent with the observed statistical properties of the data have eluded numerous analysts. This note shows how the results of recent research into the equilibrium demand for M1 and the monetary base strongly imply that the "shift in the drift" is associated with and caused by a break in expectations about future trends in inflation.

In a recent study, Hoffman and Rasche [1989] present strong evidence that three variables, real M1 (or real monetary base), real personal income, and a measure of nominal interest rates (either the Treasury bill rate or a long-term government bond rate), all of which individually are random walks with drift, are co-integrated. The property of co-integration implies, among other things, that there are less than three independent (or common) trends among the three co-integrated variables. In particular Hoffman and Rasche find that (a) there is only one co-integrating vector among the three variables; and (b) that the implied equilibrium elasticity of the demand for real balances (either real M1 or the real base) with respect to real income is

unity. These results imply that there is only one independent trend between the velocity of M1 and the nominal interest rate and only one independent trend between base velocity and the nominal interest rate [Engle and Yoo, 1987]. This implies that the observed drift in either the velocity of M1 or the velocity of the monetary base is proportional to the drift in nominal interest rates. Thus any "shift in the drift" of these velocity measures is the mirror image of a shift in the drift of nominal interest rates.

These conclusions are verified by the tests reported in Table 1. Three regressions are presented for log changes of the three variables: M1 velocity, base velocity and nominal interest rates (either the Treasury bill rate or the 10 year government bond rate) against a constant and a dummy variable (D82) which is zero through December 1981 and 1.0 thereafter. The estimated coefficients in the long-term interest rate equation indicate a significant shift in the drift of the interest rate in the same direction as the shift in the drift of both velocities. The estimated coefficients for the Treasury bill rate also show a shift in the interest rate drift in the same direction, but this shift is not measured with any precision because of the high variance in short-term interest rates.

Linear restrictions across the three equations on the estimated coefficients are tested using seemingly unrelated regression estimation (SUR). These linear restrictions are determined by the estimated equilibrium interest elasticities of the two velocity concepts in Hoffman and Rasche [1988].

The drift in base velocity should be proportional to the drift in M1 velocity, since for both variables the drift is proportional to the drift in the nominal interest rate. Thus among the six estimated parameters in Table 2, only two are independent.

Regardless of whether the nominal interest rate is measured by the Treasury bill rate or by the 10 year bond rate, the drift restrictions implied by the equilibrium demand for real balances are not rejected. Thus we conclude that the shift in velocity drift that is observed for M1 and the monetary base in 1982 is the image of a corresponding shift in the drift of nominal interest rates at that time.

An additional hypothesis is that the drifts in base velocity and M1 velocity after 1981 are both zero [Rasche, 1988]. If this is true, then the equilibrium demand functions for real balances imply that the drift in nominal interest rates after 1981 is also zero. This adds an additional (fifth) restriction across the estimated regression coefficients, which leaves only one independent parameter in the three regressions. Tests of the five joint restrictions are presented in Table 3. Again the data do not reject the linear restrictions implied by the equilibrium demand for real balances, nor

do they reject the hypothesis that the drifts in the three variables are all zero subsequent to 1981.

These results help sort out the numerous hypotheses that prevail about the change in velocity behavior in the 1980s. Nine such hypotheses are outlined in Rasche [1987]. Many of those hypotheses are inconsistent with the evidence presented in that analysis. The remaining hypotheses not conclusively ruled out by the previous analysis are not consistent with stable equilibrium demand functions for real M1 and the real base before and after 1982.

One hypothesis, which is investigated indirectly in Rasche [1987] and received little support, is that the observed change in velocity behavior is the result of a break in inflation expectations. In the absence of direct effects of measures of expected inflation rates in the demand for real balances, there is no intuitive explanation of how such a break generates a shift in the drift of the velocity measures.

The realization that the shift velocity drift is just the image of a shift in the drift of nominal interest rates provides the missing intuition for the expected inflation hypothesis. If the post-Accord period through 1980 is characterized by a steady upward drift in inflation expectations, then it is reasonable to conjecture that this drift is reflected in a positive drift in nominal interest rates. If the inflation expectations stabilized during the 1981-2 recession, and subsequently remain stable, then a reasonable conjecture is that there is no drift in nominal interest rates in the 1980s.

One source of evidence consistent with the hypothesis of a break in the drift in inflation expectations around the end of 1981 is the Livingston and Survey Research Center survey data on inflation expectations. Both surveys date from the late 1940s. The data are on one year ahead inflation expectations formed at the end of the previous year. Both series show a general upward trend through 1980 and then break sharply downward. Since 1982 the Livingston series (the only one for which I have the data at the moment) has fluctuated without trend in the 3-5 percent range.

¹The data from the Livingston Survey are provided by the research department of the Federal Reserve Bank of Philadelphia. The Survey Research Center data are described in Juster and Comment [1980]. The SRC data are for the fourth quarter of the previous year through 1977, and for December of the previous year thereafter.

²It would be interesting to know if these inflation expectations series are "trend stationary" or "difference stationary." With only about 30 observations, it is unlikely that any test of the unit root hypothesis provides a reliable discrimination between the two hypotheses.

If published inflation forecasts are taken as representative of inflation expectations there is a second source of evidence in support of a break in drift of inflation expectations in the 1981–82 period. The annual CEA forecasts of the GNP deflator, as tabulated by McNees [1988], trend steadily upward from 1962 through 1981. Then the forecast rates drop precipitously in 1981–2 and stabilize in the 3–4 percent range through 1987. The forecasts for 1988 and 1989 in the respective Annual Reports of the Council of Economic Advisers are 3.9 and 3.7 percent, respectively. Belongia [1988] analyzes GNP deflator forecasts for the 1976–87 period from five sources: the CEA, the CBO, the ASA/NBER survey panel, and from two economics consulting firms. He finds that the forecasts of the latter four sources closely parallel those of the CEA. Thus, the historical ex-ante inflation forecasts are consistent with the hypothesis that inflation expectations stabilized in the early 1980s and have not drifted since.

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Table 1
Unrestricted Drift Estimates^a

Log Changes of	Constant	D82	Equilibrium Interest Elasticity ^b
Y/B	2.795 (.348)	-3.687 (.985)	55
Y/M1	3.384 (.382)	-4.965 (1.079)	39
RTB	8.352 (5.729)	-18.953 (16.204)	na
Y/B	2.808 (.349)	-3.700 (.985)	70
Y/Ml	3.401 (.382)	-4.983 (1.080)	50
R10	5.783 (2.148)	-15.612 (6.068)	na

aSample period: monthly 53,4 - 87,12 omitting 80,2-80,6 and 81,1-81,4. B = Adjusted Monetary Base; Y = Personal Income, RTB = Treasury bill rate; R10 = 10 year government bond rate.

bfrom Hoffman and Rasche [1989], Tables 3 and 4

D82

Equilibrium Interest

Log Changes

of

Table 2 Restricted Drift Estimatesa

Constant

			Elasticity $^{ m b}$
Y/B	2.434 (.270)	-3.552 (.763)	55
Y/Ml	3.432 (.380)	-5.009 (1.076)	39
RTB	6.241 (.691)	-9.108 (1.956)	na
Chi-Squared Test Stati	stic = 3.26 (4	degrees of freed	lom)
Y/B	2.479 (.269)	-3.743 (.759)	70
Y/Ml	3.471 (.376)	-5.240 (1.062)	50
R10	4.959 (.537)	-7.486 (1.517)	na

Chi-Squared Test Statistic = 4.56 (4 degrees of freedom)

aSample period: monthly 53,4 - 87,12 omitting 80,2-80,6 and 81,1-81,4. B = Adjusted Monetary Base; Y = Personal Income, RTB = Treasury bill rate; R10 = 10 year government bond rate.

bConstraints: RTB equations:

- •55*bconstant, RTB = bconstant, Y/M1
- .55*bD82,RTB = bD82,Y/M1 .55*bconstant,Y/B = .39*bconstant,Y/M1
- $.55*b_{D82}, Y/B = .39*b_{D82}, Y/M1$

R10 Equations:

- .70*bconstant, RTB = bconstant, Y/M1
- $.70*b_{D82,RTB} = b_{D82,Y/M1}$
- .70*bconstant, Y/B = .50*bconstant, Y/M1

 $.70*b_{D82,Y/B} = .50*b_{D82,Y/M1}$

Table 3 Restricted Drift Estimates Zero Drift after 1981a

Log Changes of	Constant	D82	Equilibrium Interest Elasticity ^b
Y/B	2.434 (.270)	-2.434 (.270)	 55
Y/M1	3.432 (.380)	-3.432 (.380)	39
RTB	6.241 (.691)	-6.241 (.691)	na
Chi-Squared Test St	atistic = 5.71 (5 d	legrees of fre	edom)
Y/B	2.479 (.269)	-2.479 (.269)	70
Y/Ml	3.471 (.376)	-3.471 (.376)	50
R10	4.959 (.537)	-4.959 (.537)	na

Chi-Squared Test Statistic = 7.74 (5 degrees of freedom)

aSample period: monthly 53,4 - 87,12 omitting 80,2-80,6 and 81,1-81,4. B = Adjusted Monetary Base; Y = Personal Income, RTB = Treasury bill rate; R10 = 10 year government bond rate.

bConstraints: RTB equations:

- .55*bconstant,RTB = bconstant,Y/M1
- .55*bD82,RTB = bD82,Y/M1 .55*bconstant,Y/B = .39*bconstant,Y/M1
- $.55*b_{D82}, Y/B = .39*b_{D82}, Y/M1$ b*constant,Y/B = b*D82,Y/B

R10 Equations:

- .70*bconstant, RTB = bconstant, Y/M1
- .70*bD82,RTB = bD82,Y/M1
- .70*bconstant, Y/B = .50*bconstant, Y/M1
- .70*bD82,Y/B = .50*bD82,Y/M1 b*constant,Y/B = b*D82,Y/B

COORDINATION OF MONETARY AND FISCAL POLICY William POOLE Brown University

An improving federal budget position should have a variety of favorable effects. ... By putting downward pressure on real interest rates, it can encourage domestic business capital formation and make housing more affordable. ("1989 Monetary Policy Objectives," Testimony of Alan Greenspan, Chairman, Board of Governors of the Federal Reserve System, dated February 21, 1989, page 6.)

Will fiscal restraint in fact bring interest rates down? The Chairman of the Board of Governors thinks so, as indicated by the statement above from his prepared testimony distributed by the Federal Reserve in conjunction with its report to Congress pursuant to the Full Employment and Balanced Growth Act of 1978. On February 22, 1989, Chairman Greenspan testified before the Subcommittee on Domestic Monetary Policy, Committee on Banking, Finance and Urban Affairs, U.S. House of Representatives, and his answers to questions made his view even clearer. On four separate occasions — in response to questions from Representatives Hoagland, Neal, and Vento — Chairman Greenspan indicated that the federal deficit had raised real interest rates in the 1980s and that reducing the deficit would bring real interest rates down.

This year, as the first of a new presidential term, is potentially a time in which Congress and the Administration will agree on a new course to reduce the federal budget deficit. Such action can only occur if the perceived political benefits exceed the perceived political costs. The political costs of some combination of higher taxes and lower federal spending are obvious. Where might the benefits arise? A possibility grounded in economic theory is lower interest rates. Federal Reserve officials have long argued that the nation would be better off with a lower federal deficit. Why not strike a deal? The Congress delivers a lower deficit and the Fed delivers lower interest rates. Academics call it "monetary-fiscal policy coordination." Call it a "deal" or call it "coordination:" the issue is whether it will work. In this memorandum, I will begin by reviewing the failure of policy coordination in 1967 and then discuss analytical and political issues. The final section contains my reflections on the relation of the policy coordination issue to the fundamental objectives of monetary policy.

Policy Coordination in 1967

The U.S. economy in 1967 provides an excellent historical parallel to today's monetary-fiscal policy coordination debate. The 1967 economy was fully-employed. Inflation was rising. There was a thrift industry problem that seems trivial by today's standards but was regarded as serious at the time. The Fed was deeply involved in a policy coordination exercise and the outcome is instructive.

Three pieces of background information are needed to understand monetary policy in 1967. First, the Fed had been shaken by the liquidity crisis in the thrift industry during the credit crunch in the summer of 1966. Regulation Q interest ceilings on deposit rates had been extended to thrifts, but in 1967 the Fed was fearful that sharp increases in rates would create a recurrence of the thrift problems of the previous year. Second, most members of the Federal Open Market Committee (FOMC) and of the Board staff believed that fiscal policy was a powerful instrument for regulating aggregate demand. The FOMC was convinced that a combination of fiscal restraint and monetary ease would resolve the policy dilemma; fiscal restraint would restrain aggregate demand permitting sufficient monetary ease to keep GNP growing at lower interest rates, which would avoid inflicting new pain on the thrift industry.

Third, obtaining fiscal restraint required a delicate political balancing act. The Vietnam War was increasingly unpopular. At the same time, President Johnson wanted to pursue his Great Society initiatives, which were opposed by many in Congress. Johnson judged, correctly, that a fiscal package would involve cuts in Great Society programs as part of the compromise to enact tax increases.

The Fed's views are quite clear from reading the Memorandum of Discussion, which is a very complete record of FOMC meetings. The Memorandum is not a meeting transcript, but it does paraphrase statements made by FOMC members and Fed staff present at the meetings. Individuals making statements are identified by name. Because the Memorandum was released with a five-year lag, FOMC discussions proceeded with the confidentiality of speakers protected, at least in terms of the pressures of day-to-day political disputes. It is clear that FOMC members spoke their minds at these meetings, and many things were discussed that could never have been broached if the meetings were public or if the Memorandum had circulated within the Administration.

In its meeting of February 2, 1967 the FOMC discussed the economic projections of the Council of Economic Advisers (CEA). The Administra-

tion's budget message had called for fiscal restraint, and the CEA had a specific proposal built into its economic forecast. The FOMC discussed the CEA assumption that substantial monetary ease in the form of lower interest rates would be required to offset the fiscal restraint, and it is clear that most FOMC members accepted at least the basic outline of the CEA analysis. Given that the economy appeared weak at the beginning of 1967—real GNP fell in the first quarter in what came to be called the "minirecession of 1967"—the FOMC was more concerned about how much to ease than about whether to ease.

By the time of the FOMC meeting of June 20, 1967 it was clear that the recession of 1967 was indeed mini. The staff forecast anticipated strong growth of real GNP and continuing inflationary pressures even under the assumption that corporate and individual taxes would be increased by October. Given the likely damage to the thrift industry of rising interest rates, the FOMC was prepared to wait for fiscal action. The Memorandum reports that, "Mr. Mitchell [a Board member] said he came out in favor of no change in policy at this time, in the hope that before the Committee's next meeting the Administration would have moved on the matter of a tax increase." Even though the staff estimated that non-borrowed bank reserves might have to grow at an annual rate of 11–14 percent to hold interest rates steady, the FOMC voted a policy directive to "maintain about the same conditions in the money market as have prevailed since the preceding meeting of the Committee. ..."²

There was no Administration fiscal proposal in hand for the FOMC meeting of July 18, but the staff could report Washington gossip that there was a fiscal plan in the making and that it would involve a larger tax increase than previously expected. The FOMC again voted a directive to maintain prevailing money market conditions.³ The gossip was correct; in the August meeting the FOMC could discuss the President's message of August 3 calling for a 10 percent income tax surcharge. Governor Robertson argued for an unchanged monetary policy in these terms:

[T]he President's fiscal program seems to me to be the overriding consideration. As proposed, it is a strong program, and one which, if enacted, will bring to the fore serious considerations with respect to the mix of fiscal and monetary policies. In

¹Federal Open Market Committee, *Memorandum of Discussion*, Meeting of June 20, 1967, page 72.

²Memorandum, meeting of June 20, 1967, page 91.

³Memorandum, meeting of July 18, 1967, page 96.

the meantime, while the proposal is moving forward, it seems incumbent on us to keep financial markets from becoming either too tight or too loose, so that we do not prematurely prejudge the nature of the fiscal program or its effects; we can move appropriately when we are better able to gauge the progress of the program and the reactions of businesses, consumers, and investors to it.⁴

In August the FOMC again voted a policy directive to maintain "about the prevailing conditions in the money market." 5

The September FOMC meeting provides unmistakable evidence on the Fed's approach to monetary policy in 1967. The main issue at this meeting was not how monetary policy would affect the economy but how it would affect Congress.

Personally, Chairman Martin said, he felt quite strongly that it would be untimely for the Committee to make a change in policy at its meeting today, and that it should adopt a directive along the lines of alternative A. Obviously that was a matter of judgment, and questions of timing clearly were determining. Mr. Waynes's remarks on the subject had pointed up his (Chairman Martin's) own thinking. With fiscal policy strongly stimulative pending action on the President's tax program, the simple logic of the economic situation implied the desirability of changing monetary policy, as it probably had as much as two months ago. But the overriding need at this point was to get some restraint from fiscal policy through a tax increase, and in his judgment that would be less likely if Congress came to believe that adequate restraint was being exercised by monetary policy. The country was engaged in a major war, yet there had been an unfortunate tendency to underestimate the strains being put on economic resources by the hostilities in Vietnam. A "guns and butter" economy was not feasible; the country's resources were not sufficient for that.

He would not assert that monetary policy was not too easy, Chairman Martin continued, but he thought it would be foolish for the Committee, after having maintained its policy to this

⁴ Memorandum, meeting of August 15, 1967, page 82.

⁵Memorandum, meeting of August 15, 1967, page 84.

point, to launch a probing operation just before System testimony was taken on the tax bill. ... 6

The FOMC knew that the economy was strong and knew that monetary policy was too easy, and yet again voted to maintain "about the prevailing conditions in the money market."

The Federal Reserve did not see the fiscal restraint it wanted until mid 1968, about 18 months after it had begun to worry about the need for an easier monetary policy to achieve the proper coordination with fiscal policy. Tighter fiscal policy in 1968 did not slow the economy; not until the spring of 1969 did the Fed finally bring money growth down. The cost of the Fed's efforts to influence Congress by holding down interest rates was enormous. By acting vigorously in 1966 the Fed had nipped the developing inflation. By playing politics with monetary policy in 1967–68 the Federal Reserve fed money into an increasingly inflationary economy to the point where inflation and inflation expectations became thoroughly entrenched.

Analytical Framework for Examining Policy Coordination Issues

It is clear that the origin of the Fed's mistake in 1967 was to overestimate the likely effect of fiscal restraint even if that restraint had appeared in timely fashion. The place to begin the analysis, therefore, is with the conditions under which changes in the fiscal policy affect aggregate demand and interest rates. Fiscal policy must have these effects if the issue of a monetary policy response is to arise in the first place. The key to addressing this issue is to determine the conditions under which fiscal policy will affect interest rates.

Suppose, contrary to fact, that the Federal Reserve were to run its monetary policy by fixing the rate of growth of some monetary aggregate. The demand for money is a function of GNP and interest rates. If a fiscal policy change were to affect GNP, then the money demand function would be cleared through a change in the interest rate. If the fiscal policy change did not affect aggregate demand and GNP, then it would not affect the interest rate either given the assumption of a fixed path for the money stock.

The analysis is only slightly different given the Federal Reserve's actual practice of implementing monetary policy through control of the federal funds rate. If a fiscal policy change would affect GNP all other things

⁶Memorandum, meeting of September 12, 1967, pages 72-73.

⁷Memorandum, meeting of September 12, 1967, page 76.

equal, then to maintain GNP on a desired path the Federal Reserve would have to adjust its interest rate target. Thus, the issue again comes down to one of whether a fiscal policy adjustment would change the interest rate consistent with a GNP outcome along a desired path.

A second part of the analysis must grapple with the issue of exactly how we measure a fiscal policy change. It is clear that some adjustments in fiscal policy can affect the economy without having much effect on the reported federal budget deficit, and vice versa. If there is a budget deal this year, what percentage of the reported reduction in the deficit will be genuine and what percentage smoke and mirrors? The Federal Reserve should obviously ignore accounting changes. Asset sales reduce the reported deficit but in truth are a means of financing the deficit rather than reducing it. Changes in taxes and transfers might deserve a little attention, and changes in federal purchases deserve the most attention.

Another issue concerns the certainty of the effects being analyzed. Monetary policy is a powerful instrument, and it is important that it not be thrown off course in an attempt to offset a change in fiscal policy that never actually occurred.

Finally, the political aspect of this debate is obviously very important. Every Congress and every Administration complains of the supposed damage of high interest rates; how many documented cases are there of either institution complaining that interest rate are too low? The Federal Reserve must be careful not to put itself in a position where it will be pressured politically to push interest rates down, or keep them from rising, when sound monetary policy requires that interest rates be let go. In analyzing the 1967 episode I had no way of knowing whether Chairman Martin provided some sort of private assurances to President Johnson, but it is clear the FOMC found it very difficult to tighten monetary policy once it had embarked on the policy of holding interest rates down in an effort to influence fiscal policy. Chairman Greenspan's repeated unqualified assertions that reducing the budget deficit will reduce real interest rates runs the danger that the Fed will be asked to "do its share" by holding down nominal interest rates should a budget package to reduce the deficit be enacted. Although Chairman Greenspan has been careful to refer to real interest rates, that is a subtlety easily lost when political push comes to political shove.

Fiscal Policy Effects on Interest Rates

The effect of fiscal policy on interest rates is a part of the old debate over crowding-out and crowding-in. This argument is usually put in terms of the effects of changes in the budget deficit on GNP, but the analysis cannot in fact proceed without specifying the way in which the budget deficit is changed. Let us specify possible changes in the context of current budget negotiations.

The strongest case for a fiscal policy effect on aggregate demand and interest rates arises in the context of a change in federal purchases of goods and services. Suppose the government, perhaps through a Gramm-Rudman-Hollings sequester, cuts purchases of goods and services. The reduction of federal purchases directly reduces aggregate demand. Given an unchanged money growth path the new equilibrium for interest rates and GNP involves lower levels for both. But the size of the effect depends critically on the interest elasticity of aggregate expenditures. If the elasticity is relatively high then the effect of a change in federal purchases will be relatively small. What happens is that a decline in federal purchases reduces the budget deficit and therefore the amount of federal borrowing in the credit markets. Interest rates fall just a little below the levels that would otherwise obtain and that small change induces a large offsetting response of private investment. These private interest-sensitive expenditures would be some mix of investment in the national income accounts and expenditures on consumers' durable goods. There is also a crowding-in mechanism at work through the international accounts. Lower interest rates in the United States reduce the net capital inflow which tends to depreciate the dollar and raise net exports.

It is critically important to understand that the crowding-out and crowding-in mechanism can work powerfully with only small changes in interest rates. When interest elasticities of demand are large, small changes in interest rates have large effects. Small changes in interest rates relative to what they otherwise would be are very difficult to identify given the changes in interest rates occurring for other reasons. The political danger in the Federal Reserve's position is that Congress, if it acts to reduce the budget deficit, will want to see nominal interest rates fall noticeably below the level they used to be. However, the Federal Reserve can only promise that with sound monetary policy fiscal restraint will hold real interest rates below, and probably only slightly below, the level they would otherwise be.

A reduction in federal transfer payments (welfare, unemployment benefits, social security, etc.) is likely to have a smaller effect than reduced

federal purchases, especially in the short-run. Econometric models generally treat consumption expenditures as a long distributed lag on disposable income. The effects of a reduction of transfers on consumption would therefore be stretched out over some considerable number of quarters. There is reason, of course, to be skeptical about the accuracy of econometric models. This skepticism is especially justified if cuts in transfer payments are thought to be temporary. In this case it is probable that the short-run cuts will have practically no effect whatsoever on consumption spending.

Certain types of tax increases can probably be analyzed as if they involve essentially lump sum tax changes. These would include personal income tax increases through a reduction in the personal exemption and, perhaps, increases in tobacco and alcohol taxes. These tax changes will have small effects similar to those of cuts in transfers.

Other types of tax increases — especially those on business — can only be properly analyzed after the form of the tax increases is specified. For example, further reduction of investment incentives by stretching out allowable depreciation periods would have a direct effect on the expected after-tax rate of return on new investment. The effect on the economy would flow primarily from the effect of the tax change on investment demand rather than through the effect on the budget deficit itself.

There are many other ways to change the budget deficit that everyone agrees will have practically no effect whatsoever on aggregate demand or interest rates in either the short-run or the long-run. For example, asset sales will reduce the reported deficit but have no effect on aggregate demand. If the government were to apply to itself the same accounting standards it insists most public corporations follow, many of the gimmicks used to reduce the reported deficit would disappear as their effects would not even show up in the reported deficit.

Short-Run Versus Long-Run Effects and the Importance of Uncertainty

Even when all the conditions are met for a fiscal policy effect on interest rates and GNP it is important to understand that the implication for monetary policy is short-run in nature. Under certain conditions a permanently tighter fiscal policy might justify a permanently higher level for the money stock. The outcome would be that GNP would continue along its target path and interest rates would be lower. But a permanent increase in the money stock requires only a one-time increase in the rate of growth of the money stock. That is, if the Federal Reserve were to judge that money growth averaging four percent per year would be appropriate in the

long-run, then one year of five percent money growth might be enough to get the level of the money stock up to its new higher path. After this one adjustment no further change in the rate of growth of money would be warranted unless fiscal policy were to become even tighter.

There is also the issue of uncertainty. We know that fiscal policy does not have clear and unambiguous effects on aggregate demand and interest rates whereas monetary policy does have powerful effects although they also are subject to considerable uncertainty. Even if we play this game on the basis most favorable to those concerned about the coordination of monetary and fiscal policy, the size of the monetary policy reaction will be extremely small under today's circumstances.

We should not underestimate the capacity of the private economy to adjust to changes in fiscal policy without experiencing unemployed resources. Given that the private economy can take care of itself reasonably well, and given the great uncertainty over the magnitude of a fiscal policy tightening and of the required monetary policy offset, the case for monetary policy to respond vigorously is extremely weak. The magnitudes are important here. Suppose Congress acts to reduce the fiscal year 1990 budget deficit by \$40 billion and of that \$20 billion is smoke and mirrors, \$10 billion is entitlements cuts and "revenue enhancement," and \$10 billion is reduced federal purchases. Smoke and mirrors do not affect aggregate demand. Entitlements cuts and revenue enhancements will have only a small effect. Cuts in federal purchases are most likely to have an effect, but even using a typical Keynesian estimate of the government purchases multiplier of about 2.5, the effect on GNP is only \$25 billion, or less than one-half of one percent of the level GNP will attain in 1990. This anticipated effect on GNP growth of 0.5 percentage points must be discounted by the various considerations discussed earlier to obtain the appropriate monetary policy response. Perhaps money growth on this argument might be adjusted up by one-half of one percentage point for one year.

Monetary Policy Objectives

The Federal Reserve has bigger fish to fry in trying to offset every little disturbance to the economy. In the same testimony quoted at the very beginning of this memorandum Chairman Greenspan put the point very well: "Maximum sustainable economic growth over time is the Federal Reserve's ultimate objective. The primary role of monetary policy in the

pursuit of this goal is to foster price stability." Chairman Greenspan on a number of occasions has emphasized that the Fed's central objective ought to be to reduce the rate of inflation to zero over a period of years. The Federal Reserve should not make or imply any commitments that might deflect it from this course.

The goal of fiscal policy today should be to move the federal deficit properly measured toward zero while restraining growth in the size of government. Fiscal policy has major impacts on economic incentives and resource allocation. Those are the issues that fiscal policy makers should emphasize. Monetary policy should focus on price stability above all and the avoidance of monetary disturbances that would upset aggregate activity.

The Federal Reserve is a highly political institution because monetary policy is quite properly a matter of political debate in a democracy. Technical economics issues are obviously important to successful monetary policy, but these issues are not easily explained even to the readers of the best of U.S. newspapers. As emphasized above, when relating the economics of the monetary-fiscal policy coordination debate to the political debate no technical issue is more important than the distinction between interest rates that are lower than they otherwise would be and rates that are lower than they used to be. Economists talk about the former and the public hears the latter. The fact of the matter is that Congress does not care whether interest rates are lower than they otherwise would be as long as they are lower than they used to be. The Federal Reserve knows full well that it is inviting a major monetary policy mistake if it promises or appears to promise interest rates lower than they used to be. For this reason the Fed must always make clear that its policy will depend on the goal of reducing inflation in an orderly way and not on the latest budget compromise.

⁸ "1989 Monetary Policy Objectives," Testimony of Alan Greenspan, Chairman Board of Governors of the Federal Reserve System, February 21, 1989, page 4.