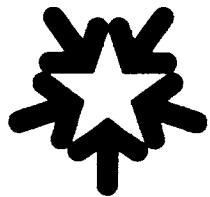


SHADOW OPEN MARKET COMMITTEE

Policy Statement and
Position Papers

September 18-19, 1988

PPS 88-02



THE BRADLEY
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SHADOW OPEN MARKET COMMITTEE

The Committee met from 2:00 p.m. to 7:00 p.m. on Sunday, September 18, 1988 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.

*On leave at the Council of Economic Advisers

SOMC POLICY STATEMENT SUMMARY

Washington, September 18 — The Shadow Open Market Committee called on the federal government to adopt a three-point program to ensure continued economic expansion:

FIRST, the Federal Reserve should reduce the growth rate of the monetary base over the next five years to 3 percent. Ultimately, this will reduce inflation to zero.

SECOND, the United States should cease and desist from trying to manipulate foreign exchange rates and pressuring other nations to do the same. Such intervention is ineffective and counterproductive.

THIRD, Congress and the new administration should hold the rate of increase in total nominal federal expenditures to an average of no more than 3 percent a year. If such a policy is adopted, the budget can be balanced without an increase in taxes.

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

In its Statement, the SOMC called on the Federal Reserve to abandon its traditional approach of "fine-tuning" monetary policy to short-run changes in business activity. Instead, the Fed should focus on implementing a long-run non-inflationary policy. The Committee said that the Fed should resist political pressures to alter levels of interest rates from what freely competitive financial markets would produce. The price of credit should be determined solely by private competition.

The Committee warned that intervention by central banks in the foreign exchange market has no lasting effect. Slower monetary growth, whether caused by foreign currency intervention or domestic open market operations, leads to a stronger currency. Accelerations of monetary growth, whether produced by intervention or domestic policy actions, lead to a weakening of the currency.

The Committee flatly rejected any and all proposals to increase federal revenue as a share of GNP. The U.S. is now in a position, the Committee said, to move toward balance in the Federal budget with present tax rates.

Monetary policy actions should aim to achieve goals consistent with the nation's fiscal priorities. However, if mistakes are made in budget policy, the monetary authorities should neither accommodate nor compensate for such disturbances.

SHADOW OPEN MARKET COMMITTEE

Policy Statement

September 19, 1988

Rising inflation threatens continued economic expansion. As 1988 has progressed, concern has shifted from recession to inflation. If policymakers allow monetary growth to accelerate, the risk of higher inflation increases. A cycle of boom and bust could result. To avoid such an outcome and provide for a stable economy in the 1990s, the Shadow Open Market Committee recommends a three-point program:

FIRST, the Federal Reserve must adopt a substantive, long-run strategy for monetary policy that is consistent with reducing inflation toward zero. The Federal Reserve should reduce the growth rate of the monetary base steadily over the next five years to a 3 percent rate.

SECOND, the United States should cease and desist from trying to manipulate foreign exchange rates and pressuring other nations to do the same. Such intervention is ineffective and counterproductive.

THIRD, Congress and the new administration should hold the rate of increase in total nominal federal expenditures to an average of no more than 3 percent a year. If such a policy is adopted, the budget can be balanced without an increase in taxes.

Monetary Policy Actions: 1988 and Beyond

The capital stock of any central bank is the credibility of its long-run commitment to contain inflation. Once such capital is squandered, society pays a high cost over a long period as the central bank seeks to restore its reputation. As we anticipated at the time of our meeting last March, monetary policy actions in 1988 are quite generous. As a consequence, the growth rates of the monetary aggregates accelerated this year. Excessive growth of the monetary base through the first three quarters of this year has raised inflation and fostered expectations of further price increases to come.

A high rate of capacity utilization in industry will not trigger inflation. High capacity utilization is fully compatible with low inflation, given restraint in monetary growth. High capacity utilization may lead to an increase in the price of one product relative to others, or of one factor of production relative to others, but not in the average price level. Changes in relative prices are desirable in order to shift resources from slack sectors to sectors experiencing tight supply conditions. Relative price changes, however, should not be mistaken as signs of inflation. Excessive monetary growth is far more important than capacity utilization as a determinant of inflation.

The monetary stimulus of 1988 will inevitably result in a compensating period of monetary stringency, probably in 1989. Once rapid monetary growth is tolerated, there is little possibility that a subsequent economic contraction can be avoided. The lagged effects of monetary growth over the prior two to three years gradually increase the inflation rate, while an anti-inflationary monetary policy restrains growth of final demand. This temporarily squeezes real output growth, frequently producing a recession.

The Federal Reserve will make a serious error if it resists a transitory increase in unemployment and thus loses the credibility of its stand as an inflation fighter. To be successful, monetary policy must be stable and predictable. The Federal Reserve must not attempt to "fine-tune" its policy in response to short-run fluctuations in business activity.

We urge the Federal Reserve to resist political pressures to do the impossible — namely, to attempt to alter levels of interest rates from what freely competitive financial markets would produce. The Federal Reserve should declare its intent to focus exclusively on quantitative measures of reserves and monetary growth, and allow the price of credit to be determined by private competition.

The Federal Open Market Committee, which implements central bank policy, should adopt a long-term, five-year strategy of reducing the growth of the monetary base to a non-inflationary rate. Under present circumstances, this means that ultimately the base should increase no more than 3 percent annually — the expected long-run sustainable growth of real GNP.

The Federal Reserve argues in its most recent monetary report to Congress that the relationship between the monetary base and nominal income

is too unreliable to be useful in monetary policy. The Federal Reserve, however, has not produced any evidence that a more reliable link exists between its preferred operating and instruments of borrowed reserves and/or the federal funds rate and nominal income.

Foreign Exchange Intervention

Intervention by central banks in the foreign exchange market has no lasting effect. Exchange rate trends in recent years are not a result of central bank intervention policy. Rather, they are consistent with changes in monetary growth rates and economic fundamentals in the U.S. and other countries.

Slower monetary growth, whether caused by foreign currency intervention or domestic open market operations, leads to a stronger currency. Accelerations of monetary growth, whether produced by intervention or domestic policy actions, lead to a weakening of the currency. If the monetary authorities pursue a steady non-inflationary domestic monetary policy, foreign exchange intervention will not be necessary; if they do not, intervention is futile.

The U.S. should declare its commitment to return to the status of the "Nth currency country" in a world where there is one less set of exchange rates than there are currencies. The dominant currency country cannot seek competitive advantage over its trading partners through currency manipulation, and we should set an example for others to follow by focussing on the achievement of sustainable domestic policies without distraction by short-run currency movements.

Budgetary Policy

The nearly exclusive focus of federal budget policy on the deficit diverts attention away from other important fiscal objectives. The fiscal debate should refocus on four areas: a) the level and mix of federal spending; b) the economic rationale for specific programs; c) the optimal method of financing federal government spending; and d) the impact of spending and financing on saving, investment and economic growth.

The Budget Control Act of 1985 (Gramm-Rudman-Hollings) and its revised version are political manifestations of the lack of understanding of

the role budget policy plays in the economy. By reinforcing the narrow focus of budget policy on deficits and accentuating its flaws, Gramm-Rudman allows economic policymakers to avoid crucial spending and tax decisions.

The objectives of fiscal policy should be to establish a set of tax and spending policies conducive to long-run economic growth and consistent with a desired allocation of national resources. Since fiscal year 1986, Congress and the Administration have successfully slowed growth in federal spending. Spending as a share of GNP has receded. This trend must continue.

We oppose any and all proposals to increase federal revenue as a share of GNP. The U.S. is now in a position to move toward ultimate balance in the Federal budget with present tax rates. If total federal outlays are held to an average 3 percent annual increase for the next five years, expenditures decline to under 20 percent of GNP. The deficit would simply disappear.

Monetary policy actions should aim to achieve nominal income and inflation goals consistent with the nation's fiscal priorities. If mistakes are made in the setting of budget policy, the monetary authorities should neither accommodate nor compensate for such fiscal disturbances.

ECONOMIC OUTLOOK

Jerry L. JORDAN
First Interstate BanCorp.

As 1988 has progressed, concern has shifted from recession to inflation. This year could be an important turning point for the trend of prices, the response of the Federal Reserve, and economic priorities as a result of this November's election.

Recession this year was not a part of the SOMC forecast, either before or after the October 1987 stock market crash. However, we now project a mild downturn beginning by mid-1989 and lasting two or three quarters. This forecast results from two key assumptions. One is that monetary growth has been excessive in 1988, helping to push inflation into the 5 percent - 6 percent range next year. The second assumption is that once inflation reaches such levels monetary policy will become quite restrictive and a transitory contraction of the national economy will follow.

In an environment of higher inflation, continued rapid monetary growth next year could postpone, but 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 way to avoid a recession next year is not by assuring adequate stimulus in 1989, but by avoiding excessive monetary growth in 1988. The time to combat next year's recession was during this year's expansion.

THE U.S. ECONOMY

Most forecasters have now discounted about a possible recession in 1988. We are maintaining our forecast of a solid economic gain this year, raising slightly the projected growth in real GNP. On a year-end-to-year-end basis, we continue to expect real GNP to advance over 3 percent this year.

A recovery in consumer spending, an upswing in business outlays for computers and other capital equipment, and a surge in exports accounted for the expansion of output in the first part of 1988. Several sectors will support growth during the remainder of 1988. Gains can be expected as: (1) exports continue to rise, (2) American companies capture larger shares

of domestic business with imports easing, and (3) capital spending plans, which have been revised upward, are put into effect.

The deceleration of growth during 1989 will be reflected in: (1) a deceleration of consumer spending growth, (2) a softening in both residential and non-residential building, and (3) inventories at higher-than-desired levels with a subsequent correction and cutback in production.

Federal Reserve actions in 1988 have been intended to help sustain the expansion. However, the nearly 8 percent rate of growth of the monetary base, now estimated for the first three quarters of 1988, has added to inflation concerns. Once the inflation rate moves into the 5 percent – 6 percent range, we expect a tightening in monetary policy.

Inflation Concerns Revived. The economic outlook for 1989 thus hinges on the actual inflation rate in the closing months of 1988. Unfortunately, a number of forces are coming together to push up prices at a faster pace. The root cause of inflation is monetary stimulus that is too rapid relative to the economy's capacity to produce. Much debate has developed over the "best" measure of "money," but at least some important measures have exhibited high growth rates. The monetary base, consisting of currency and bank reserves, is the raw material for all of the monetary aggregates. During the past four years, the base has grown at an average rate of 8.5 percent, and we expect an increase of about 8 percent this year. This represents a relatively high growth trend, with inflationary potential.

While monetary stimulus continues to fuel demand, the economy has begun to run into capacity constraints in industry and tightening employment conditions in labor markets. Factories are now operating at an average of about 83 percent of capacity, the highest level since early 1980. The unemployment rate is close to 5 percent, which may be the effective full-employment level in the United States. Consequently, prices and wages have been under increasing upward pressure.

Some forecasters have argued that excess capacity in other countries will mitigate inflationary pressures. However, the decline in the dollar's value on foreign exchange markets has diminished the ability of imported goods to restrain domestic inflationary pressures. As more of the dollar's decline is passed through by exporters to consumers, prices of imported goods excluding fuel are expected to climb by about 10 percent this year.

With respect to oil and food price shocks, oil prices are likely to hold

relatively stable or ease slightly during the coming year in view of OPEC's inability to agree on and enforce cutbacks in production. The drought in parts of the United States, on the other hand, could push food prices up more rapidly, especially in 1989.

The net result is likely to be a year-to-year increase in consumer prices of nearly 5 percent by the end of 1988, followed by a rise of about 6 percent in 1989. In 1987, consumer prices increased 4.5 percent.

Financial Markets. A stronger-than-expected economy and inflation concerns have been the major forces pushing up interest rates since early this year. The Federal Reserve has moved their Fed funds target up grudgingly, but steadily, this summer, hoping that economic growth will moderate, inflation will not accelerate, and that the foreign exchange value of the dollar will hold relatively stable.

We expect short-term credit demands to continue to rise during the coming months, while the Federal Reserve may in effect hold interest rates below market-clearing levels. This will result in continued rapid growth rates of the various monetary aggregates. If inflation accelerates, as we expect, the Fed would then tighten reserve availability substantially, beginning in late 1988 or early 1989. Short-term interest rates could rise 100 to 150 basis points between the end of this year and the middle of 1989.

The bond market has reacted quickly to changes in recession/inflation concerns. The yield on 30-year government bonds fell to a low of about 8.3 percent early this year from a peak of 10.5 percent on the Friday before last October's stock market plunge. It has since climbed back to about 9.4 percent. Long-term rates are unlikely to climb sharply from current levels.

The yield curve should flatten further in the first half of 1989, as short-term interest rates rise much faster than long-term rates. Most recessions since World War II have been preceded by an actual inversion of the yield curve, with short-term interest rates above long-term rates. Compared with the steepness of the yield curve last year, yield spreads are expected to narrow, but not invert, in 1989. The long-bond rate is projected to peak at about 9.75 percent in early 1989 before declining on expectations of lower future inflation and a weaker economy.

If the Federal Reserve reacts before inflation moves above the 5 percent - 6 percent range, a recession would be relatively mild and brief. We

expect real GNP to decline about 1 percent next year on a fourth-quarter-to-fourth-quarter basis, with an upturn beginning in the first half of 1990.

The U.S. Dollar. While fluctuating considerably on a day-to-day basis, the dollar has generally appreciated on balance in 1988 — regardless of Central Bank intervention. Actions by foreign exchange market participants will determine whether the dollar depreciates further or appreciates, regardless of the desires of central bankers. That raises important questions about economic and political events that would persuade the market to override intervention efforts by the central bankers.

Three factors, however, are likely to support the dollar in at least the next 9–12 months. First, as discussed below, we expect both the U.S. trade and current account deficits to decline in 1988 and 1989, which should contribute strength to the dollar. Second, we expect interest rates to rise, with increases generally faster than the increase in inflation. Thus, real interest rates are likely to be a positive factor for the dollar next year, as the real interest-rate differential between the United States and elsewhere widens.

The forecast of a U.S. recession, beginning in 1989, should be a third positive factor for the dollar, as the external deficits should improve faster than otherwise and expected U.S. inflation rates should decline. Recent data suggest, however, that countries with a substantially larger share of real economic growth coming from stronger domestic demand, as opposed to net exports (especially Japan), will find their currencies depreciating less against the dollar than would have been expected.

Excepting political considerations, we look for the dollar to strengthen modestly until early November. After the election, we expect the dollar to appreciate more rapidly, especially during the recession.

U.S. Current Account Deficit. After recording new highs in 1987, both the U.S. trade and current account deficits are poised for declines in 1988 and 1989. First half 1988 results show that merchandise exports on a volume, or inflation-adjusted basis, rose over 30 percent from their year-earlier level, while imports increased only 10 percent. The depreciation of the U.S. dollar since early 1985 and improved export markets have added an undeniable breath of life to U.S. exports, just as the dollar's decline has made imports less competitive.

In 1988, we are looking for a \$30 billion improvement in the trade deficit.

Through the first six months of the year, we have already seen exports increase 33 percent from their level for the same period in 1987 on a nominal basis, while imports have risen only 12 percent. On an annual rate basis, the cumulative deficit for the first half of 1988 was \$30 billion less than that for all of 1987.

In 1989, we anticipate a larger improvement in the trade and current account deficits than is occurring in 1988 because of the forecast U.S. recession. The decline in the trade deficit, however will be offset to a large degree by a continuing increase in the outflow of funds on the services account, reflecting the net increase in foreign ownership of U.S. assets. Current account deficits have to be offset by either net direct investment by foreigners in the United States and/or by increased holdings of other U.S. assets by foreigners. In 1987, the negative U.S. net investment position grew as net foreign holdings of U.S. assets rose about \$154 billion. In 1988, they will rise another \$145 billion. As a consequence, earnings on the net position of U.S. holdings of foreign assets and foreign holdings of U.S. assets will erode the traditional U.S. surplus earned on the net services account. Net services may record a small deficit by 1989 (or even 1988). In 1989, we forecast a current account deficit totaling \$120 billion — the equivalent of 2.3 percent of GNP, down substantially from 3.4 percent in 1987.

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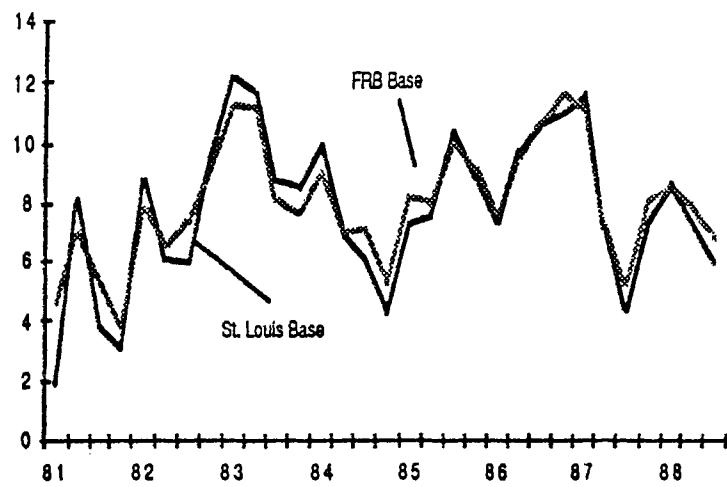
THE U.S. ECONOMY
Shadow Open Market Committee

Jerry L. Jordan
Senior Vice President and Chief Economist
First Interstate Bancorp

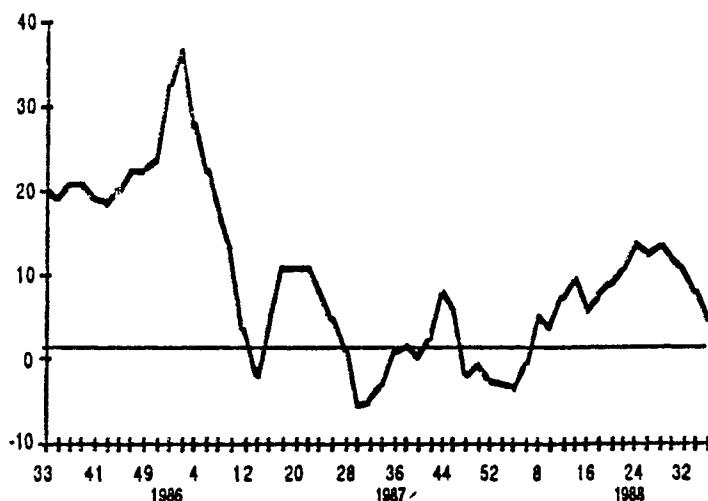
Washington, D.C.
September 18-19, 1988

SHADOW OPEN MARKET COMMITTEE

MONETARY BASE
(Quarterly rates of change, s.a.a.r.)

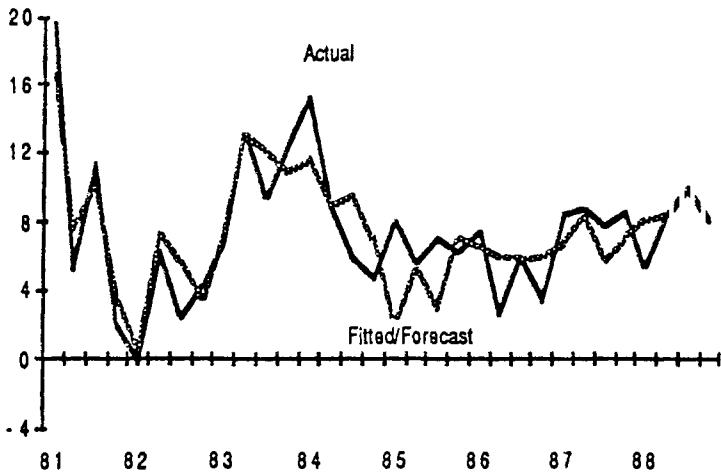


TOTAL BANK RESERVES
(4-week moving avg., percent change from 13 weeks ago, SAAR)

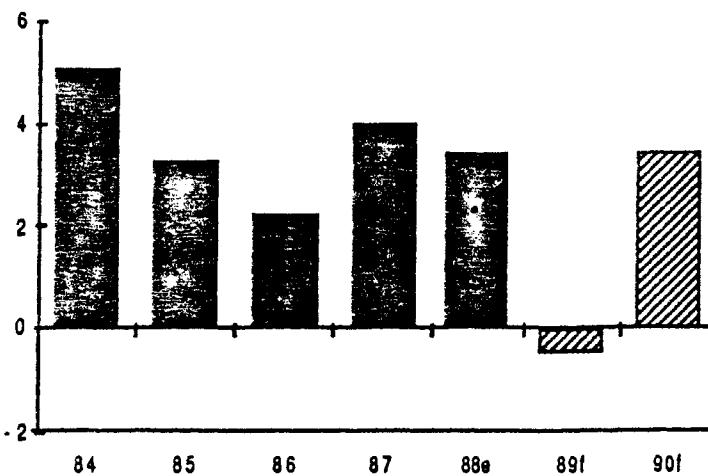


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NOMINAL GNP
(Percent change from prior quarter, annual rate)

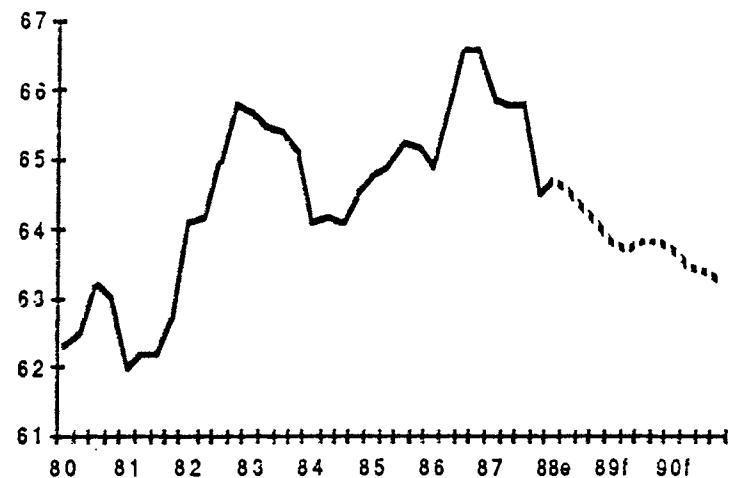


REAL GNP
(Percent change, 4th quarter to 4th quarter)



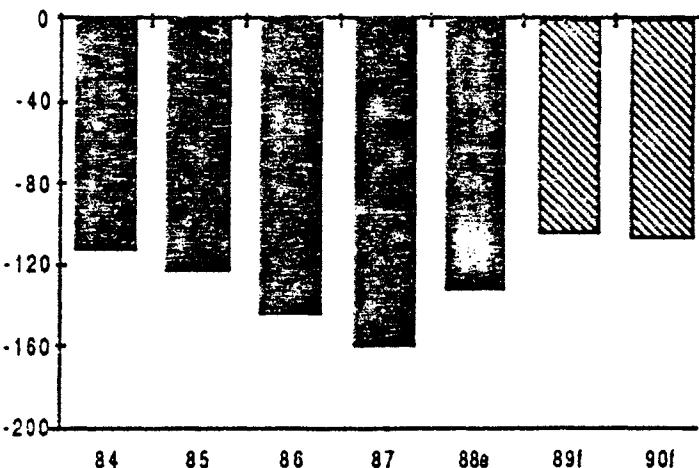
15

REAL CONSUMER SPENDING AS A SHARE OF GNP
(Quarterly, percent)

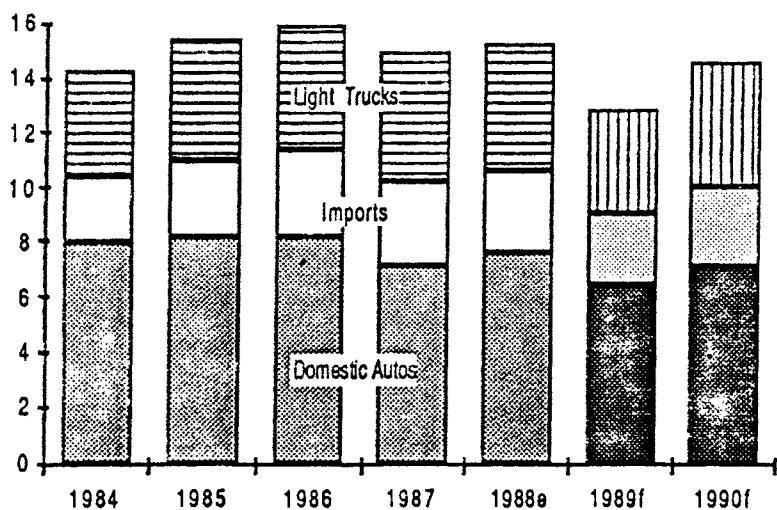


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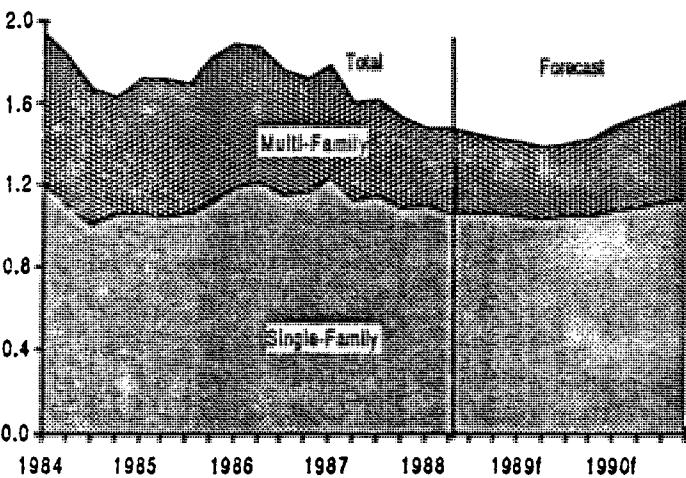
FOREIGN TRADE DEFICIT
(Billions of dollars, balance of payments basis)

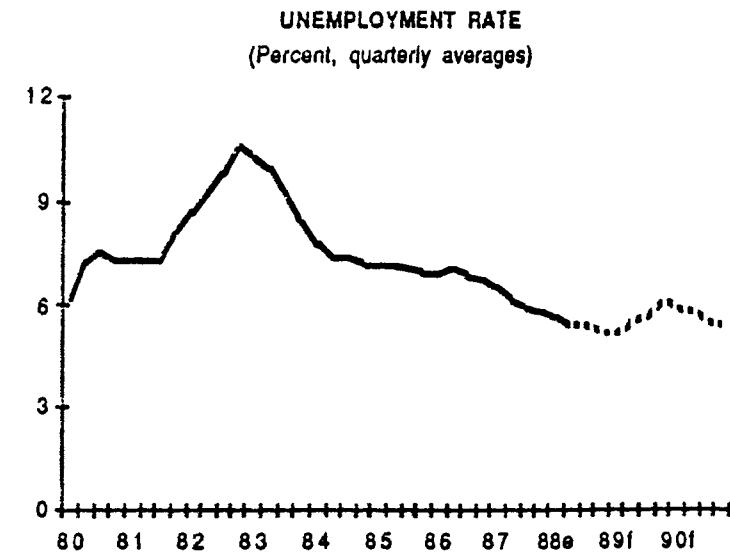
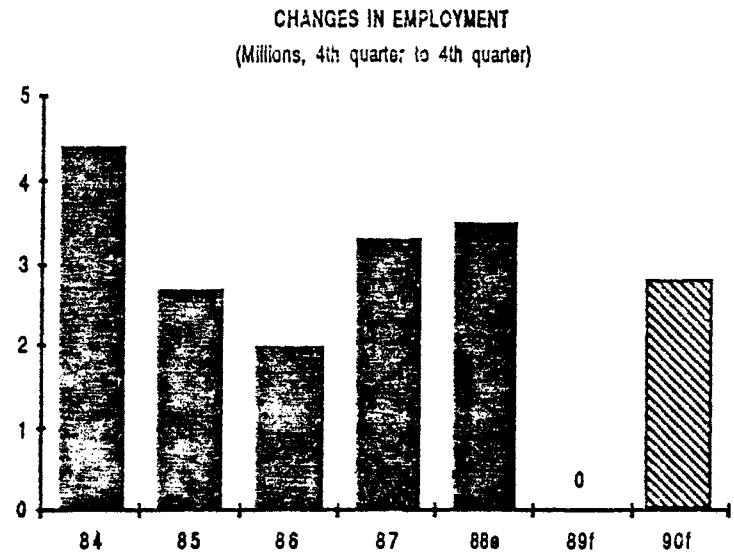


AUTO AND TRUCK SALES
(Millions of units)

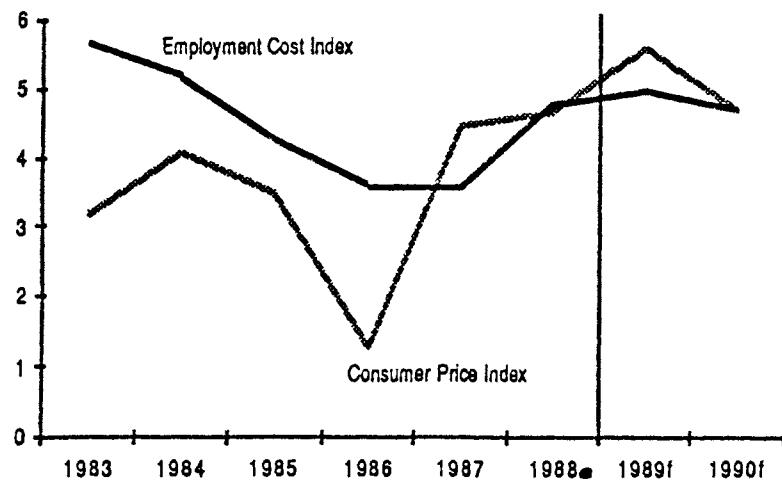


HOUSING STARTS
(Millions of units, seasonally adjusted annual rate)

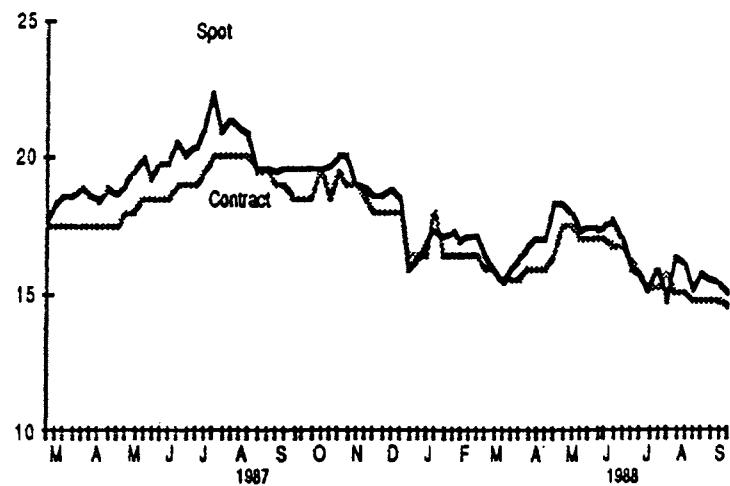




CONSUMER AND EMPLOYEE COSTS
(Percent changes, 4th quarter to 4th quarter)



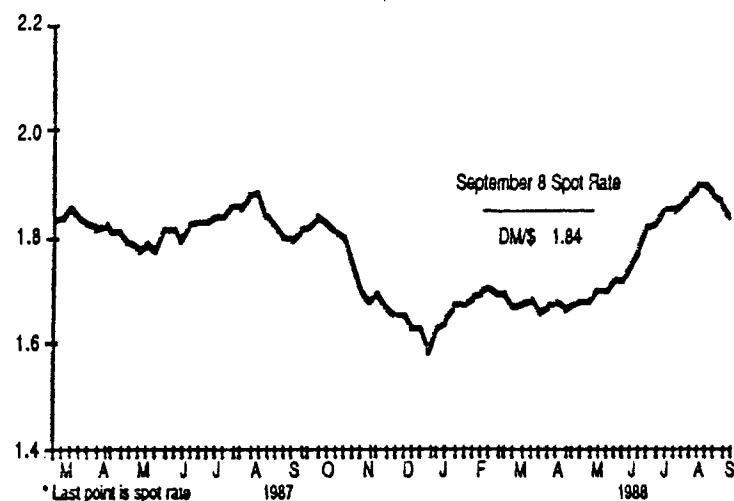
CRUDE OIL PRICES
(West Texas Intermediate,
Dollars per Barrel, Weekly Averages)



EXCHANGE RATE - DM/\$

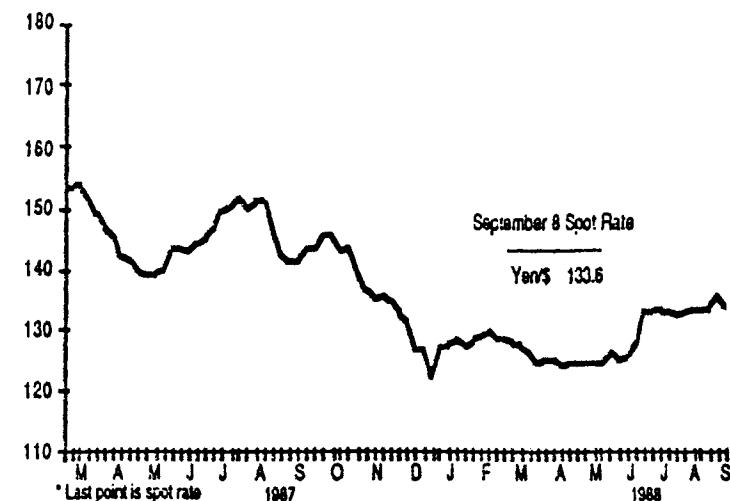
(Weekly Averages*)

SEPTEMBER 18-19, 1988



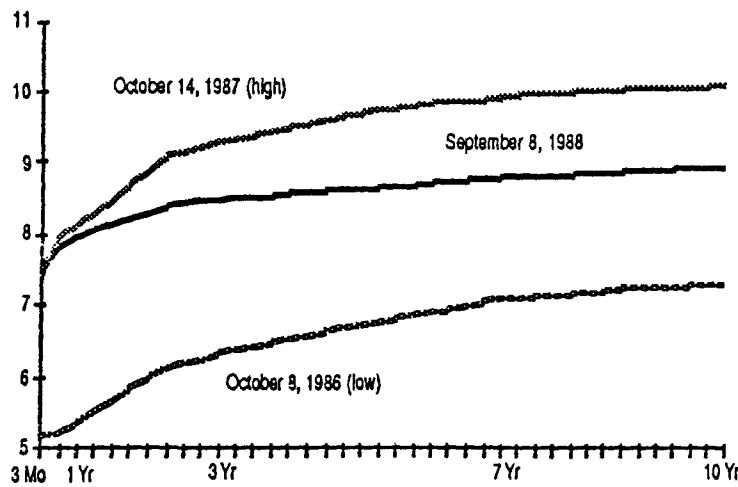
EXCHANGE RATE - YEN/\$

(Weekly Averages*)



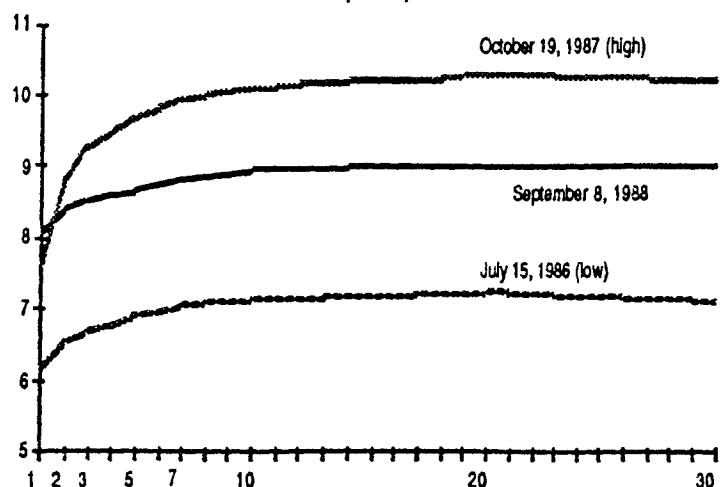
YIELD CURVE, 3-MONTHS TO 10 YEARS

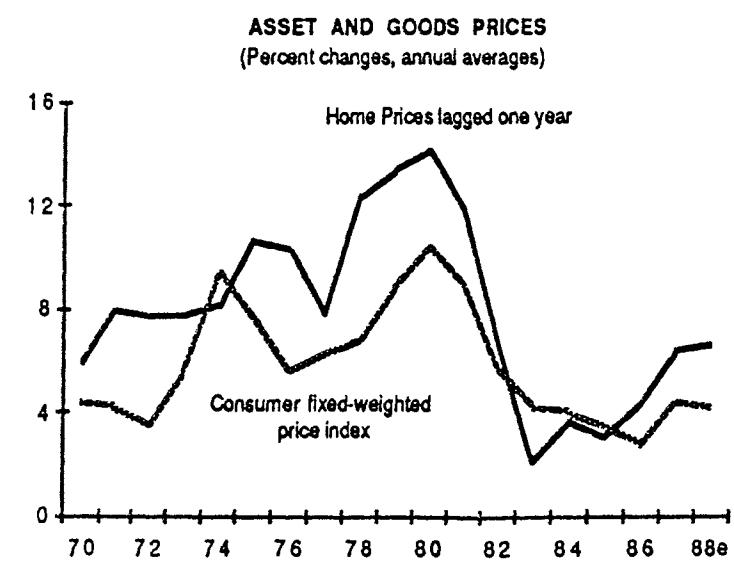
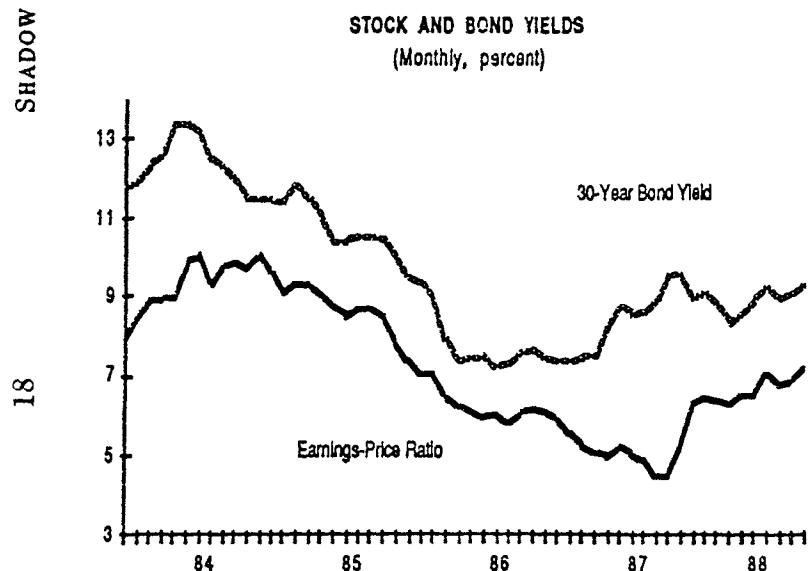
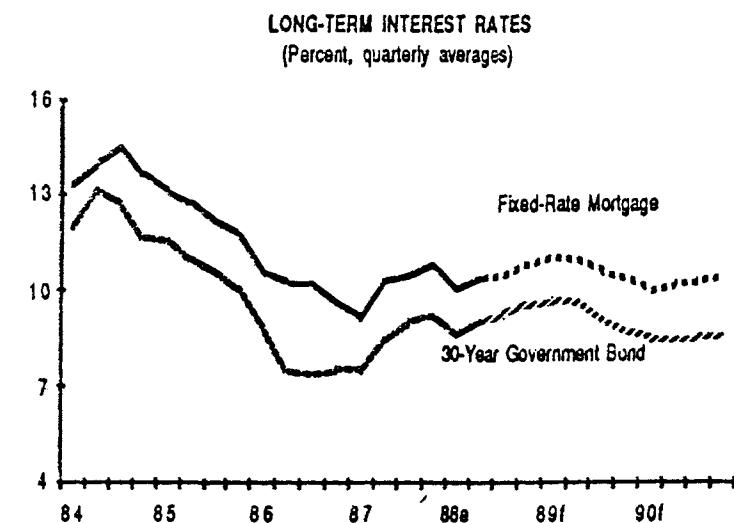
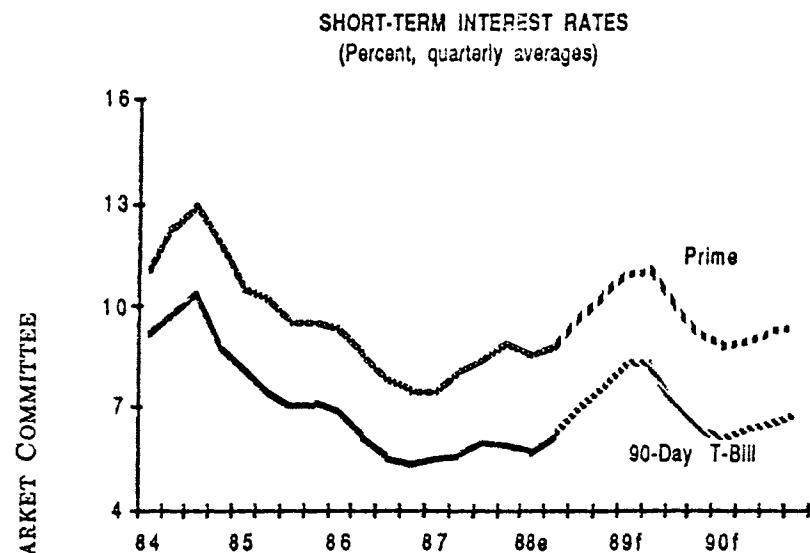
(Percent)



YIELD CURVE, ANNUALLY 1 TO 30 YEARS

(Percent)





MAJOR ECONOMIC INDICATORS

	QUARTERLY												4TH QUARTER					
	1988			1989			1990			1988			% Change '88/'87	% Change '89/'88	% Change '90/'89			
	I	II	III	IV	I	II	III	IV	I	II	III	IV	Estimate	1989 Forecast	1990 Forecast			
GROSS NATIONAL PRODUCT (Billions of \$, annual rate)	Actual	4724.5	4619.7	4830.1	5028.7	5123.1	5179.1	5227.0	5273.8	5374.8	5494.5	5684.7	5707.4	5028.7	7.8	5275.8	4.9 5707.4	8.2
% Change, annual rate		5.4	8.3	9.5	8.2	7.7	4.4	3.5	4.0	7.7	9.2	6.3	7.5					
REAL GNP (Billions of 1982 \$, a.r.)	Actual	3956.1	3988.1	4028.8	4056.8	4078.9	4068.7	4050.2	4038.0	4088.0	4109.0	4143.8	4176.2	4058.8	3.4	4038.0	-0.5 4178.2	3.4
% Change, annual rate		3.4	3.3	4.2	2.8	2.2	-1.0	-1.8	-1.2	2.7	4.4	3.8	3.8					
GNP DEFATOR (1982=100)	Actual	118.4	120.8	122.4	124.0	125.4	127.3	129.0	130.7	132.2	133.7	136.2	138.7	124.0	4.3	130.7	5.4 138.7	4.6
% Change, annual rate		1.7	5.1	9.0	5.3	5.4	5.5	5.4	5.3	4.9	4.8	4.8	4.4					
CONSUMER PRICE INDEX	Actual	116.2	117.8	118.1	120.8	122.4	124.1	126.8	127.8	129.1	129.8	132.0	133.8	120.8	4.7	127.5	5.8 133.5	4.7
% Change, annual rate		3.4	4.9	6.2	5.7	5.7	5.8	5.8	5.4	5.0	4.7	4.8	4.8					
AUTO SALES (Millions, annual rate)	Actual	10.8	10.8	10.7	10.3	9.8	9.2	8.8	8.8	8.1	8.8	10.3	10.8	10.8*	3.1	9.1*	-14.6 10.0*	10.5
HOUSING STARTS (Millions, annual rate)	Actual	1.48	1.48	1.48	1.44	1.41	1.38	1.41	1.42	1.48	1.83	1.87	1.82	1.48*	-8.8	1.41*	-3.8 1.55*	10.0
INDUSTRIAL PRODUCTION (1977=100)	Actual	134.5	136.0	137.0	138.4	140.7	140.3	138.8	138.7	138.8	141.6	143.3	144.9	139.4	4.8	138.7	-0.5 144.8	4.4
% Change, annual rate		4.0	4.5	5.6	4.3	3.8	-1.0	-2.3	-2.1	3.3	5.2	4.8	4.8					
NONFARM EMPLOYMENT (Millions)	Actual	104.7	105.6	106.6	107.2	107.8	107.8	107.8	107.3	107.8	108.8	109.6	110.3	107.3	3.5	107.3	0.0 110.3	2.8
UNEMPLOYMENT RATE, ALL WORKERS (Percent)	Actual	5.8	5.4	6.4	6.2	5.2	5.8	5.7	6.1	5.9	6.8	5.8	6.4	5.2	N/A	6.1	N/A 5.4	N/A
MONETARY BASE (Billions of \$, a.r.)	Actual	282.0	287.0	271.4	275.9	278.2	282.3	286.1	281.0	286.0	303.8	308.6	313.8	275.9	7.5	291.0	5.5 313.8	7.8
% Change, annual rate		8.5	7.6	6.6	6.7	8.0	4.5	8.6	7.0	10.0	8.0	7.8	6.8					

NOTE: All quarterly series are seasonally adjusted; % change, annual rate calculated from prior quarter; calculations based on unrounded data; a.r. = annual rate.

*Annual total; N/A = Not applicable.

FORECAST OF INTEREST RATES
(Quarterly Averages)

Short-Term	1988			1989			1990									
	Actual	I	II	Forecast	III	IV	I	II	III	IV						
Fed Funds (Overnight)	8.66	7.16	8.00	8.66	9.38	9.20	8.10	7.20	7.03	7.38	7.60	7.85				
Treasury Bills (3 month)(1)	5.72	6.21	7.00	7.66	8.38	8.30	7.10	8.35	8.10	8.40	8.66	8.75				
CDs (3 month, Secondary)	6.72	7.22	8.25	8.78	8.40	9.30	8.10	7.48	7.20	7.50	7.68	7.88				
Eurodollar (3 month)	8.88	7.38	8.38	8.80	9.50	9.41	8.22	7.57	7.33	7.63	7.78	7.98				
Prime Rate	8.59	8.78	8.70	10.30	10.80	11.00	8.66	8.18	8.00	8.00	8.29	8.40				
Long-Term																
U.S. Government Bonds (30 years) (2)	8.63	8.06	8.28	8.88	9.78	9.85	9.08	8.70	8.50	8.58	8.60	8.68				
Corporate Aaa (Moody's)	9.58	9.81	10.05	10.35	10.55	10.48	10.05	9.80	9.60	9.88	9.70	9.78				
Mortgage Rate (Fixed)(3)	10.08	10.37	10.55	10.85	11.10	11.00	10.60	10.38	10.00	10.28	10.30	10.40				

(1) Bank discount basis.

(2) Yields adjusted to constant maturities.

(3) Contract rates on first mortgages, conventional market.

First Interstate Economics

REFOCUSsing FISCAL PRIORITIES

Mickey D. LEVY

First Fidelity Bancorporation

The good news on the budget is that real federal spending has slowed. The bad news is that recent and expected federal legislation threaten to reverse this trend and raise pressure to increase taxes. Budget actions and the debate surrounding the budget process have focussed nearly exclusively on the deficit. Fixation on deficits diverts attention away from the economic rationale for the level and types of spending, from the optimal method of financing the spending, and away from the impact of spending and financing methods on saving, investment and growth. This fixation is all the more absurd because of the uncertainty and controversy about the economic and financial effects of deficits and about how to measure the deficit. The current budget process has lost sight of the broader objectives of fiscal policy, is misleading to policymakers, and especially misleads the public. A reassessment of fiscal priorities and the policy process is required.

Problems with Current Focus

The Budget Control Act of 1985 (Gramm-Rudman-Hollings, or GRH) and its revised version have focussed nearly exclusively on the deficit to the exclusion of other important objectives of fiscal policy. The report of the National Economic Commission has not been issued yet, but is likely to have the same thrust. More attention must be paid to the benefits of specific federal programs relative to their costs or alternative uses of resources. The deficit debate largely ignores the fact that several large structurally flawed federal spending programs are the true sources of rising outlays and high deficits. Recent budget debates have excluded serious examination of key spending programs in terms of the economic rationale of their objectives or the efficiency of their structures in achieving those objectives.

Total federal spending, which has been rising as a percent of GNP, represents the amount of national output absorbed by the public sector. This allocation of resources to the public sector reduces private investment, regardless of how it is financed. Investment and economic output is further suppressed by taxes that discourage saving, investment and productive effort. As federal spending has increased as a percent of GNP, the share of net investment has receded.

Recent high deficits simply reflect the revealed preference of economic policymakers to raise spending but not raise current taxes. As endogenously determined residuals, deficits do not convey the national priorities or costs implied by the size and mix of federal spending. Contrary to the commonly-held perception that the Reagan Administration's tax cuts in the early 1980s "caused" the deficits, virtually all of the rise in the cyclically adjusted deficits as a percent of GNP in the 1980s is attributable to escalating federal spending. As a percent of GNP, outlays have risen from 19.0 percent in the 1960s and 20.4 percent in the 1970s to 23.1 percent in the 1980s. They peaked at 24.3 percent in FY 1983 and have since receded to approximately 22.3 percent in FY 1988 (see Table 1). Besides net interest outlays, most of the increase in federal spending is due to increased outlays for social security, health, and non-means-tested entitlement programs. Defense outlays, after rising from 4.7 percent of GNP in FY 1979 to 6.3 percent in FY 1986, have remained flat in real terms since FY 1986, and have begun to recede as a share of GNP.

The riveting attention on deficits persists despite a general lack of understanding about the economic and financial market effects of changes in the deficit. While conventional debate about fiscal policy in the 1970s centered on the magnitude and timing of fiscal multipliers, attempts to manage aggregate demand through discretionary changes in the deficit failed. In the 1980s, periodic recommendations to increase taxes to stimulate the economy call into question the *sign* as well as the magnitude of the fiscal policy multipliers. Also, earlier presumptions about the effects of deficits on interest rates and exchange rates have proved incorrect. In contrast to this uncertainty, there is a growing body of evidence that suggests adverse long-run effects of the mounting federal debt burden. This is another reason why fiscal policy must be redirected from short-run stabilization objectives toward creating an environment conducive to long-run economic growth.

Even though changes in the deficit (or changes in the cyclically-adjusted deficit) have proved to be very poor and misleading measures of fiscal thrust, and have been unrelated to changes in the prices of financial assets, continued attention on such measures confuses the fiscal policy debate. Instead, fiscal impact studies should focus on the stock of federal debt relative to the stock of other assets, rather than the flow of deficits, and should also key on the economic responses to specific tax and spending changes. In-

deed, one of the key lessons of the 1980s is that the economic responses to the changes in the tax and spending structures underlying the deficit have overwhelmed the aggregate demand impact on changes in the deficit. The allocative effects of the Tax Reform Act of 1986 exemplify the significant economic and financial impacts of a revenue neutral change in tax policy. This suggests that there is a right way and a wrong way to lower deficits.

The budget process induces fiscal actions independent of the economic environment. Official budget forecasts are extremely sensitive to economic and interest rate changes and, although large revisions tend to occur in each new official budget document, the forecasts unduly influence fiscal legislation. In particular, under GRH, a forecast of weaker economic growth raises projected deficits which requires larger deficit cuts. Tax increases to achieve such deficit targets may be counterproductive by reducing short-run economic growth, and also may lower long-run potential growth through investment and production disincentives.

GRH has served a useful purpose of imposing a political constraint that has contributed to actions to lower the deficit, but it has reinforced and accentuated some of the flawed emphasis of the budget process. Its target deficits are both arbitrary and without economic meaning. While well-intended, GRH has turned the budget process into a bean-counting exercise. It fails to differentiate between achieving its deficit goals through spending cuts or tax increases, and has elicited hefty tax hikes. Also, it has led to spending cuts that have tended to generate short-term saving, while precluding or postponing meaningful structural changes in some flawed programs. The tendency toward a poorly designed and skewed mix of spending restraint is reinforced by GRH's porous sequestration process. Over one-half of total federal spending is excluded from its consideration, including several large spending programs whose rapid spending growth are at the root of the deficit problem.

Refocussing Fiscal Policy

The objectives of fiscal policy should be to establish a set of tax and spending policies conducive to long-run economic growth and consistent with a desired allocation of national resources. Recent efforts to reduce deficits have made progress in slowing spending growth, but they have

relied too much on tax increases. Now that the federal debt-to-GNP ratio is forecast to peak only slightly above its FY 1988 level of 42.6 percent before receding, reducing the deficit through tax increases would be a mistaken policy — even more so than it was in the mid-1980s.

Reducing federal spending should be the top fiscal priority. In this effort, all programs should come under careful scrutiny. Several areas stand out. We can no longer afford to ignore social security, Medicare, and other non-means-tested entitlement programs. Their outlays have increased as a share of total federal spending and GNP, and a sizeable portion of their benefits go to non-poor households. Eliminating some of their structural flaws would generate cost savings, redistribute a larger share of the benefits toward lower income households, eliminate some undesired economic inefficiencies, including disincentives to work and save, and reduce pressure to cut spending in other programs for the sole purpose of meeting deficit targets. Recent fallacious and misleading revelations about the projected "surplus" in social security's OASI and DI trust funds should not overshadow the fact that social security cash payments and Medicare outlays will continue to rise as a share of total outlays and GNP.

In addition, agricultural programs are expensive and generate substantial distortive effects on production, and should be subject to complete restructuring. Unfortunately, recent passage of the Disaster Assistance Act and Medicare Catastrophic Coverage Act of 1988 illustrate the high costs of legislative slippage. The Medicare legislation raises spending and taxes substantially, but by approximately the same amounts. The CBO estimates the cost of the emergency farm legislation at \$5.1 billion; the Administration measures the cost at \$3.9 billion. Defense programs also should be considered candidates for cost savings. However, changes in the defense budget must be based on national security objectives as well as federal budget objectives.

Unfortunately, there is a general presumption that taxes need to be raised to lower the deficit, but higher taxes represent an inefficient solution. Higher personal and corporate tax rates, higher capital gains taxes, and a value-added tax are already being mentioned as part of a new tax package. The worst outcome would be higher taxes that erect further disincentives to save and invest, and reduce out international competitiveness. This would be counterproductive to economic growth and efforts to lower the federal

debt-to-GNP ratio. Although higher taxes on consumption are preferable to higher taxes on capital, they would ease the political pressure to slow spending growth and only validate the structural flaws of existing spending programs.

The Budget Outlook

Real federal spending growth has slowed significantly, spending and deficits as a percent of GNP have receded from their mid-1980s levels and, under current law and with further economic expansion, these healthy trends should continue. The potential bad news is three-fold: 1) recently enacted expensive health and farm legislation, and backlog of other spending legislation threaten to reverse the recent trend of slower spending growth, 2) there is rising political pressure to increase taxes, and 3) there is no strategy for how to conduct fiscal policy during or following a recession.

Real federal spending growth has slowed to approximately 0.2 percent annually from FY 1986 to FY 1988, compared to 3.2 percent from 1970 to 1980 and 3.6 percent from 1980 to 1986. With strong economic growth, spending has receded from a peak of 24.3 percent of GNP in FY 1983 to an estimated 22.3 percent in FY 1988. There has been a significant slowdown in defense spending and declines in non-defense discretionary programs and grants to state and local governments, excluding those for payments to individuals. Outlays for social security, Medicare and Medicaid, retirement programs, and other payments to individuals have continued to increase in real terms and as a share of GNP. Excluding the sharp rise in net interest outlays, the recent slowdown in spending is even more impressive. With net interest outlays rising to an estimated \$148 billion in FY 1988, the so-called primary deficit (deficit minus net interest outlays) is nearly in balance.

The reduction in deficits from 6.3 percent of GNP in FY 1983 to an estimated 3.2 percent in FY 1988 has been due to strong economic growth, slower spending growth, and higher taxes. Tax receipts have increased from 18.1 percent of GNP in FY 1983 to an estimated 19.0 percent of GNP in FY 1988, reflecting a series of legislated tax increases, including the Social Security Amendments of 1983, the Consolidated Omnibus Budget Reconciliation Act of 1985, the Budget Reconciliation Act of 1986, and the Bipartisan Budget Agreement of 1987.

The official budget outlook is favorable insofar as under current law, spending and deficits are projected to continue to recede as a percent of GNP. According to the CBO baseline forecast, the decline in the deficit as a percent of GNP through FY 1991 will be approximately evenly split between higher revenues and lower spending. Projected higher tax revenues reflect higher health insurance premiums scheduled under the Medicare Catastrophic Coverage Act of 1988 and a scheduled hike in payroll tax rates in 1990. Recent trends in the mix of federal spending should continue, with non-means-tested entitlements rising as a share of total outlays, and defense and non-defense discretionary outlays receding. The CBO forecasts that based on current law, average annual growth of outlays for Medicare and Medicaid between FY 1988 and FY 1994 will exceed 12 percent annually (approximately 3 times faster than CBOs average inflation forecast), and social security outlays will climb 6.5 percent annually. The increased outlays for Medicare and Medicaid will be generated by growth of the eligible population, high medical care inflation, greater use of medical services by eligible beneficiaries, and expanded coverage under the Medicare Catastrophic Coverage Act of 1988. Under current law, outlays for defense and non-defense discretionary appropriations are projected to decline in real terms and recede modestly as a share of total spending and GNP.

In its "Initial Sequester Report to the President and Congress for Fiscal Year 1989" (released August 25th), OMB raised its GRH deficit forecast for FY 1989 to \$144 billion, up from \$140.1 billion GRH Baseline projection provided in the *Mid-Session Review of the 1989 Budget* (released July 28, 1988) to reflect the enactment of the Disaster Assistance Act. This deficit projection is below the allowable \$146 billion ceiling imposed by GRH (\$136 billion target plus \$10 billion leeway), so that GRH's automatic spending cuts would not be triggered (no surprise). The President's budget forecasts deficits that decline approximately in line with the revised GRH targets.

The usual caveats to these forecasts apply. The Administration assumes sustained above average economic growth, receding inflation, and declining nominal and real interest rates. The CBO also projects lower deficits, but is more cautious in its economic assumptions, particularly as they apply to the FY 1989 budget. A recession would generate a sharp deterioration in the budget outlook for FY 1990, with significantly higher deficits. While a recession would suspend the GRH sequestration process, Congress would

be forced once again to re-base (increase) the GRH deficit targets. Basing fiscal decisions on deficit objectives in a recessionary environment would highlight and accentuate the flaws in the current budget process.

In addition, these current services and baseline forecasts may be underestimating the costs of certain laws, such as outlays of the FDIC and FSLIC bailouts of problem depository institutions and, by definition, they do not include any new spending legislation. Unfortunately, the present legislative backlog, including welfare reform, the war on drugs, and the environment, may be expensive. The political pressure to raise taxes is high. Unfortunately, in response to its mandate to recommend ways to reduce the deficit, the National Economic Commission may add to this pressure. In consideration of the broader and equally important objectives of sound fiscal policy, economic policymakers should reject such recommendations and instead seek methods of improving the efficiency of certain federal spending programs that would yield further reductions in federal spending growth.

TABLE 1
Federal Revenues, Outlays and Deficits as a Percent of GNP

	Revenues	Outlays*	Deficit
1951-55	18.1	18.4	0.3
56-60	17.7	18.0	0.3
61-65	17.9	18.7	0.8
66-70	18.8	19.7	0.9
71-75	18.1	20.0	1.9
76-80	18.5	21.4	2.8
81-85	18.9	23.6	4.7
86-87	18.6	22.6	4.0
1988-est	19.4	22.3	3.2

*Measures on and off-budget revenue and outlays.

TABLE 2
Selected Budget Projections

	1988	1989	1990	1991	1992
Receipts					
President's Budget	913.4	974.0	1054.4	1132.1	1193.8
CBO Baseline	908.0	980.0	1064.0	1134.0	1202.0
Outlays					
President's Budget	1065.8	1096.7	1156.7	1217.5	1258.8
CBO Baseline	1063.0	1127.0	1200.0	1265.0	1329.0
Deficits Projections					
President's Budget	152.3	122.7	102.3	85.4	64.9
CBO Baseline	155.0	148.0	136.0	131.0	126.0
Memo:					
New GRH Targets	144.0	136.0	100.0	64.0	28.0
Original GRH Targets	108.0	72.0	36.0	0.0	0.0
Receipts, % change					
President's Budget	6.9	6.6	8.2	7.4	5.4
CBO Baseline	6.3	7.9	8.6	6.6	6.0
Outlays, % change					
President's Budget	6.1	2.9	5.5	5.3	3.4
CBO Baseline	5.8	6.0	6.4	5.4	5.1
As a Percentage of GNP:					
Revenues					
President's Budget	19.4	19.3	19.5	19.7	19.6
CBO Baseline	19.0	19.2	19.6	19.6	19.5
Outlays					
President's Budget	22.6	21.8	21.4	21.2	20.6
CBO Baseline	22.3	22.1	22.1	21.8	21.5
Deficit					
President's Budget	3.2	2.4	1.9	1.5	1.1
CBO Baseline	3.2	2.9	2.5	2.3	2.0
Publicly-held debt					
President's Budget					
CBO Baseline	42.6	42.7	42.5	42.2	41.6

TABLE 3
Administration and CBO Projections

	1987 (act)	1988	1989	1990	1991	1992
<u>Percent change, fourth quarter over fourth quarter:</u>						
Real GNP						
Administration	5.0	3.0	3.3	3.3	3.2	3.2
CBO	5.0	2.6	2.7			
<u>Nominal GNP</u>						
Administration	8.3	6.6	7.1	6.9	6.3	5.8
CBO	8.3	6.4	7.0			
<u>CPI-W</u>						
Administration	4.5	4.3	3.9	3.5	3.0	2.5
CBO	4.5	4.4	5.0			
<u>Percent change, calendar years:</u>						
Nominal GNP						
Administration	6.8	6.6	7.1	7.0	6.5	6.0
CBO	6.8	7.0	7.1	6.5	6.5	6.5
Real GNP						
Administration	3.4	3.5	3.1	3.3	3.2	3.2
CBO	3.4	3.8	2.7	2.3	2.3	2.3
CNP Deflator						
Administration	3.3	3.0	3.9	3.6	3.2	2.7
CBO	3.3	3.1	4.3	4.1	4.1	4.1
CPI-W						
Administration	3.6	4.1	4.2	3.6	3.2	2.7
CBO	3.6	4.1	4.9	4.6	4.4	4.1
<u>Interest Rates, percent, Calendar Year Averages:</u>						
3-Month T-Bill						
Administration	5.8	6.0	5.5	5.0	4.5	4.0
CBO	5.8	6.3	7.1	6.8	6.6	6.3
10-Year Government Bond						
Administration	8.4	8.5	8.1	7.0	6.0	5.0
CBO	8.4	8.9	9.1	8.7	8.3	8.0
<u>Memo:</u>						
<u>Inflation-Adjusted Rates (CPI)</u>						
3-Month T-Bill						
Administration	2.2	2.1	1.3	1.4	1.3	1.3
CBO	2.2	2.2	2.2	2.2	2.2	1.9
10-Year Government Bond						
Administration	4.8	4.6	3.9	3.4	2.8	2.3
CBO	4.8	4.8	4.2	4.1	3.9	3.6

RECENT BEHAVIOR OF MONETARY BASE VELOCITY

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At the last meeting of the Shadow Committee, I reported on research then underway concerning demand functions for the monetary base. In the interim, the staff of the Board of Governors has investigated the question of using the monetary base as target for monetary policy. A summary of that research is published as an appendix to the July 1988 "Monetary Policy Report to Congress [*Federal Reserve Bulletin*, August 1988, pp. 530-33].

Apparently on the basis of this latter research, the FOMC has dismissed the possibility of any role for the monetary base in the implementation of money policy at the present time. "The Committee decided against establishing a range for the monetary base because it seemed unlikely to provide a more reliable guide for policy that the aggregates for which ranges already are established. Although the base has been less variable in relation to economic activity than M1, its velocity nonetheless has fluctuated appreciably and rather unpredictably from year to year" ["Monetary Policy Report to Congress," July 13, 1988; *Federal Reserve Bulletin*, August 1988, p. 519].

Unfortunately, the staff research that is the basis for this conclusion is classified FOMC material at the present time, so we apparently have to wait at least five years before there is an opportunity to review the studies in detail. At the present time, all that is available is the published appendix to the monetary policy report. Approximately 1/3 of that appendix is devoted to describing the differences between the Board measure of the monetary base and the St. Louis Federal Reserve Bank measure of the monetary base (Adjusted Monetary Base). The remainder of the appendix states four major conclusions:

1. [Statistical] techniques that allow for a break in behavior [of base velocity] in the early 1980s ... make somewhat smaller but still large errors in the 1980s and leave unanswered questions about the potential for additional shifts in the relationships.
2. The demand for the base has substantial interest sensitivity. ... The base probably is less interest sensitive than are the other monetary aggregates.

3. Over long periods of time, the demand for the base appears to be fairly predictable, especially compared with M1A and M1.
4. It is likely that the base, or for that matter any of the broader aggregates, could be controlled reasonably well over a span of several quarters — a period that would be meaningful in terms of the effects of monetary policy. However, the degree of interest rate volatility under base targeting could be quite substantial, especially in the short-to-intermediate run.

The remainder of this report will examine these major conclusions, particularly in light of our own research into the demand for the monetary base. The data presented here use both the Board and St. Louis Federal Reserve Bank monetary base concepts, and personal income. Since personal income is available on a monthly basis, this gives a substantial number of observations during the controversial 1980s period. Results available elsewhere [Rasche, 1988] suggest that the conclusions drawn from these data are consistent with those derived from other measures of aggregate economic activity such as GNP or final sales to domestic purchasers, and with other levels of time aggregation.

Any analysis of the demand for the monetary base, or monetary base velocity, has to recognize that while the experience of 1980s is not identical to that of the previous three decades, the similarities far exceed the differences. Emphasizing the similarities is more productive than emphasizing the differences. The primary lesson from the 50s—70s is that base velocity behaves like a random walk. That characterization of base velocity, and its implication for monetary policy, has been discussed many times by this committee. That fundamental property of base velocity *has not* changed in the 1980s. This is seen most easily in Figure 1, which presents the first twelve autocorrelation coefficients of the month-to-month percentage change of the velocity of both monetary base concepts. These autocorrelations are all very close to zero. Past changes of base velocity are of little, if any use, in predicting future changes in base velocity. The only significant difference in the behavior of base velocity between the 1980s and the previous three decades is the average month-to-month percentage change, or drift. Through 1981 the drift in the random walk of velocity was around 2.5 percent at annual rates; during the 1980s it is zero. After allowing for

this break in the drift of base velocity, there is no evidence of increased variability in the 1980s compared with the previous experience.

Thus, the first of the conclusions cited above is somewhat misleading. To my knowledge it is correct that no one has a convincing explanation for the shift in the drift of base (and M1) velocity that occurred abruptly in late 1981. This leaves us uncertain as to when, if ever, such a change might occur in the future. It would be nice to live without such uncertainty. Unfortunately, this is beyond our present understanding. Yet this does not have to be a matter of major concern to monetary policymakers. First, the fact that over 80 months have passed with no reoccurrence of such a shift suggests that such shifts are not an everyday phenomenon but rather low probability events. Second, even if such shifts occur from time to time, base growth rules that incorporate feedbacks such as proposed by Meltzer [1986] or McCallum [1988], insulate the growth of nominal income from their effects. Thus, the occurrence of infrequent and unpredictable shifts in the drift of base velocity are not a basis for dismissing the monetary base and an operating guide for monetary policy.

The second and third conclusions cited above are consistent with our own research into the demand for the monetary base. As reported at the last Shadow meeting, our preferred specification for the demand for the monetary base is:

$$[\Delta \ln B_t - \Delta \ln Y_t] = \alpha + \beta^* \sum_{i=0}^n \Delta RTB_{t-i} / (n+1) + \theta^* \Delta \ln (Y/P)_t - \theta^* \sum_{i=1}^n \Delta \ln (Y/P)_{t-1} / n + \theta^* DINFU_t + \phi^* D82_t + \varepsilon_t \quad (1)$$

where B is the monetary base, Y is nominal personal income, P is the deflator for personal income, RTB is the Treasury bill rate, DINFU is a measure on unexpected inflation and D82 is a dummy variable that is zero through 1981, 12 and 1.0 thereafter. Estimates of the parameters of equation (1) for the St. Louis Adjusted Monetary Base are presented in Table 1 and for the Board Monetary Base are presented in Table 2. Estimates are presented for a full sample period, and for sample periods through and subsequent to December 1981.

The estimates for the Adjusted Monetary Base in Table 1 indicate that, aside from the shift in the drift at the end of 1981, there is absolutely no difference in the estimated parameters or the standard error of the residuals, regardless of the sample period that is used in the estimation. In particular, the interest sensitivity and short-run real income elasticity parameter estimates from the 1982-88 sample for all practical purposes reproduce the estimates from the 50s—70s.

The results from the estimation for the Monetary Base in Table 2 are quite similar to the results for the Adjusted Monetary Base. In this case there is some slight variation in the estimated parameter values from the pre-82 to the post-81 sample periods, and the standard error of the residuals is somewhat higher in the latter sample period. These differences are far too small to have any economic significance.

The residual standard errors in both of these tables are considerably smaller than those from the corresponding specifications in terms of M1 or M1A, which provides support for the conclusion that monetary base velocity is more predictable than that of either measure of transactions money.

At first glance, the long-run interest elasticity of the demand for the monetary base, computed as β times the level of the Treasury bill rate, appears quite small in absolute value. This is an inference that should be treated with great caution. It may not be appropriate to construct an estimate of the long-run interest elasticity of the monetary base, given the random walk nature of velocity are complex and highly technical. The highly preliminary results of other research that is currently underway into this question suggest a long-run interest elasticity of the monetary base of the order of -.3 to -.5. The corresponding long-run interest elasticities of M1 demand are somewhat larger in absolute value, and appear to be consistent with the estimate of Poole [1987].

It is not at all clear that the demand for the monetary base is less interest sensitive than the demand for broader monetary aggregates such as M2 or M3. In the case of the broad aggregates, it is not possible to reject the hypothesis that the long-run interest elasticity is zero, computed under the assumption that own rates of return on deposits are fully adjusted to changes in market rates of interest. The size of the short-run interest elasticity of the broader aggregates is critically dependent upon how fast

deposit rates are adjusted to changes in market rates of interest. Given Regulation Q controls into 1985 on at least some types of deposit rates, there is very little experience from which to infer how unregulated deposit rates adjust to changes in market rates of interest.

When all the dust settles, the ultimate reason for the rejection by the FOMC of either measure of the monetary base as an operating instrument or target for monetary policy is the fourth conclusion above, namely that such an operating instrument would produce intolerable interest rate fluctuations. This is the historical basis of objections by the Federal Reserve to any monetary aggregate that has been proposed as a target or operating instrument for monetary policy. The substantive basis for this position is extremely weak. The experience with the New Operating Procedures in 1979-82 is typically cited as support. However, the experience of 1979-80 is contaminated by (1) the uncertainty of market participants (and perhaps also Federal Reserve officials) in the fall of 1979 about exactly how the New Operating Procedures would be implemented and (2) the credit controls fiasco in the spring of 1980. Analysis of the experience in 1981 and 1982 under the New Operating Procedures suggests that interest rate variability during this period was no greater than prior to 1979 or subsequent to 1982 [Rasche, 1985].

A second justification for this conclusion is the implication for interest rate variability of simulation studies of various econometric models under various operating procedures. The validity of this inference depends upon the appropriateness of the econometric model structure to the operating regime in question. While many of the models that are used for these simulation experiments have proven to be useful short-run forecasting devices, their structures have proven quite sensitive to the unfolding of economic history. This suggests that they may not be a reliable basis for projections much beyond the sample experience.

The third problem with this conclusion is that neither the Federal Reserve nor the FOMC have defined what they consider to be an acceptable amount of interest rate variability and the rational for a particular limit on such variability. If there are benefits in terms of achieving non-inflationary rates of nominal income growth by successfully controlling the long-run growth of aggregates such as the monetary base, but costs in terms of interest rate variability, then good economic analysis requires the identifi-

cation and measurement of both costs and benefits. Both the Shadow Committee and the FOMC agree on the benefits of achieving non-inflationary growth rates of nominal income and the necessity of controlling the growth of monetary aggregates to achieve this end. The Federal Reserve has never provided any general analysis of the magnitude of the cost of anticipated interest rate variability.

The fourth problem with this conclusion is that there may not be any feasible alternative to using the monetary base as a target and operating instrument. Recently Governor Heller has provided a concise description of the borrowed reserves operating procedure that has been used by the FOMC since late 1982 [*Federal Reserve Bulletin*, July 1988, pp. 426-28]. He asserts that this operating procedure has been "a useful tool in implementing monetary policy" but acknowledges that under such a procedure there is "no automatic mechanism for controlling monetary growth." He does not define his criterion for the conclusion that the borrowed reserves operating procedure is a useful tool in implementing monetary policy. In particular while he maintains that the ultimate objective of Federal Reserve policy is to foster economic growth in a framework of price stability, he does not indicate how this "useful tool" has fostered this objective. Indeed, there is little evidence that any progress has been made toward price stability since this "useful tool" was adopted in 1982.

Neither the borrowed reserves operating procedure nor this criticism of it are new. The borrowed reserves operating procedure is a hallowed Federal Reserve tradition dating back at least to the 1920s [Burgess, 1946]. Critics of this approach have demonstrated repeatedly that there is no evidence of a reliable link between borrowed reserves and the growth rate of monetary aggregates and/or nominal income. Thus, there is no known reliable basis for the FOMC to set "a borrowing object that it views as consistent with progress toward its goals for the monetary aggregates and the economy."

FIGURE 1

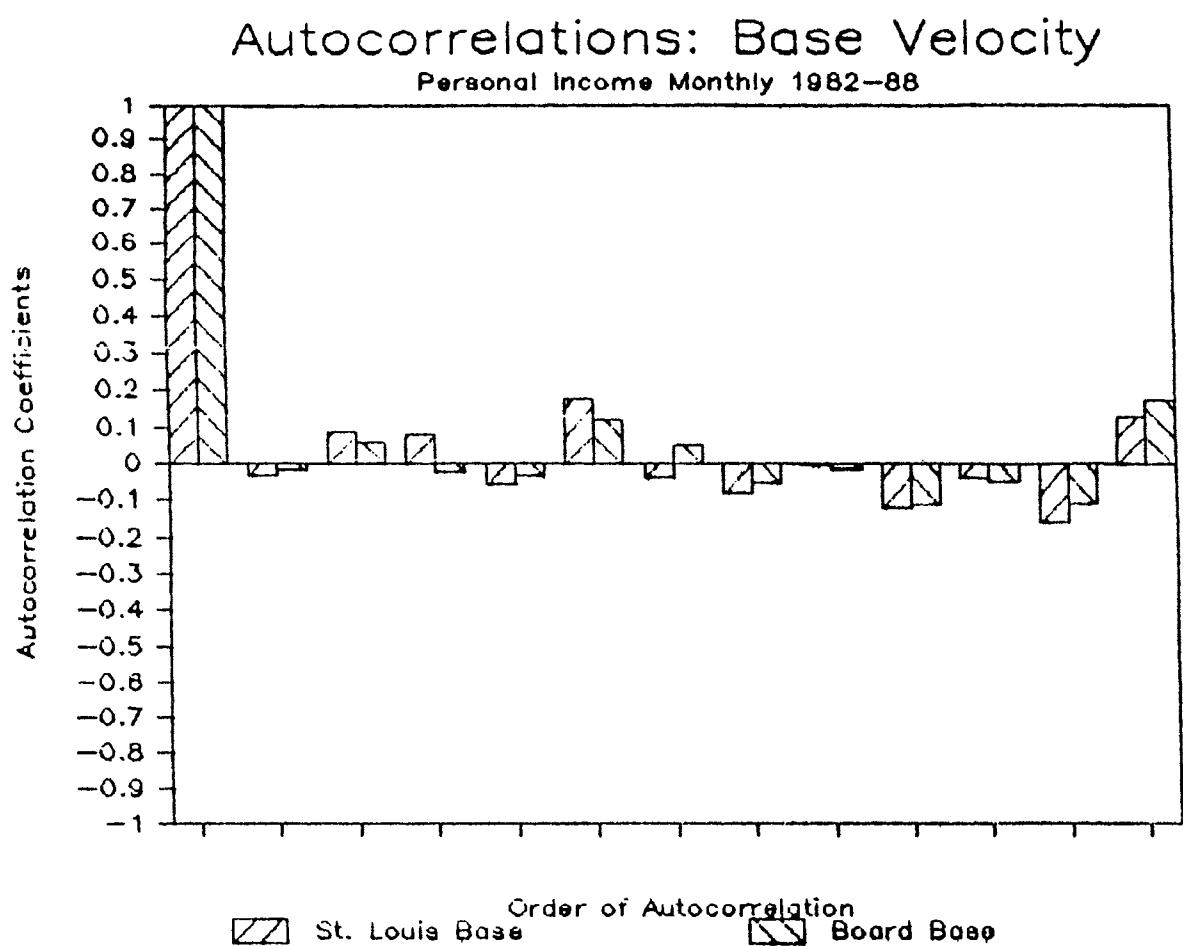


TABLE 1
Estimates of Adjusted Monetary Base Demand Equations
Monthly Seasonally Adjusted Data at Annual Rates
[Dependent variable = $\Delta \ln B_t - \Delta \ln Y_t$]

Sample	53,1-88,4	53,1-81,12	82,1-88,4
α	-2.4499 (.2184)	-2.5128 (.2129)	0.000
β	-.0080 (.0010)	-.0080 (.0012)	-.0077 (.0017)
θ	-.8835 (.0342)	-.8813 (.0362)	-.8993 (.0849)
ϕ	-2.4499	na	na
\bar{R}^2	.65	.65	.62
se	3.97	3.86	3.91
d-w	1.86	1.91	1.72

TABLE 2
Estimates of Monetary Base Demand Equations Monthly
Seasonally Adjusted Data at Annual Rates
[Dependent variable = $\Delta \ln B_t - \Delta \ln Y_t$]

Sample	59,2-88,4	59,2-81,12	82,1-88,4
α	-2.4787 (.1943)	-2.5721 (.1908)	0.0000
β	-.0054 (.0008)	-.0045 (.0010)	-.0067 (.0015)
θ	-.8445 (.0297)	-.8374 (.0322)	-.8683 (.0732)
ϕ	-2.4787	na	na
\bar{R}^2	.73	.72	.66
se	3.12	3.04	3.37
d-w	1.62	1.67	1.50

OFFICIAL INTERVENTION IN THE FOREIGN EXCHANGE MARKETS

William POOLE

Brown University

Intervention policy in the foreign exchange markets during the second Reagan Administration has been completely different from that during the first Reagan Administration. During the first administration the policy was not to intervene except to calm disorderly markets, and there was in fact very little intervention. During the second administration, and especially since the Plaza Agreement of September 1985, the scale of intervention has been very substantial. The purpose of this memorandum is to review what has happened and to evaluate where we stand now.

OFFICIAL CAPITAL FLOWS

U.S. balance-of-payments statistics for the second quarter of 1988 became available on 13 September. A chart at the end of this memo shows that the total capital inflow, which equals the current account deficit if we ignore errors and omissions in the data, fell slightly in the second quarter as a percentage of GNP. The net official capital inflow fell substantially, from 2.2 percent of GNP in the first quarter to 0.5 percent in the second quarter. The inflow of official capital declined because the dollar stopped sinking. As can be seen in the chart, the index of the value of the U.S. dollar in the foreign exchange markets rose slightly in the second quarter.

My original intention in writing this memo was to supplement the balance-of-payments data on official capital flows with reserves data for some major countries in order to provide more up-to-date information on intervention. It is, however, extremely difficult to obtain accurate information on intervention. Central banks make a point of obfuscating their intervention policies and of releasing partial and misleading data on the scale of intervention. Indeed, the scale and timing of intervention may not show up accurately in U.S. balance-of-payments statistics when foreign central banks accumulate Eurodollars rather than U.S. Treasury securities, or when intervention takes the form of positions in currency futures markets.

The more I looked into available series measuring foreign reserves the more convinced I became that attempts to measure intervention might well

be misleading rather than enlightening. Countries hold foreign reserves mostly in dollars but also in other currencies. The data may be reported in units of local currency or in SDRs, which means that the reported value of dollar reserves changes when the dollar value of the local currency unit or of the SDR changes. And, as already mentioned, countries in some cases deliberately distort their reserves data.

But we also know that the scale of intervention *per se* is of limited importance and that there is, therefore, little reason to chase after elusive foreign reserves data. Sterilized intervention has little effect on exchange rates and so the issue is the extent to which central banks have altered domestic monetary policies in response to exchange rate changes. The issue can be addressed through an examination of money growth.

MONEY GROWTH IN THE UNITED STATE, GERMANY AND JAPAN

The next chart, which uses monthly data, shows M1 and M2 growth for the United States through July. (All money growth rates discussed in this section are continuously compounded.) Money growth declined markedly in 1987 as the Federal Reserve became concerned that the dollar was depreciating too much. The dollar bottomed out at the end of 1987, and the pressure on the Fed to constrain money growth eased. The chart on the monthly DM/dollar and yen/dollar exchange rates shows the timing of the change in the fortunes of the dollar on the foreign exchanges more precisely than does the quarterly dollar index shown earlier. The most recent M1 and M2 weekly data shown in the chart from the St. Louis Fed suggests that U.S. money growth may be slowing again, but we obviously should not put much weight on a few weeks of data.

Money growth in Germany, however measured, accelerated substantially after the Plaza Agreement (see chart) and remains high. Germany resisted the depreciation of the dollar in 1986 and 1987, and did not sterilize all of its exchange market intervention. Although German M2 growth declined to about 6 percent in 1987, and has remained at that rate in 1988, the main target of German monetary policy, central bank money (MO), continues to grow at a substantially higher rate than earlier. The 1987-88 rate of growth is about 8 percent compared with 4-5 percent rate of growth in 1985-86.

Japan has targeted M2+CDs ("M2" for short). Growth in M2 crept up a little after 1983, but held close to 8 percent through 1986. By the beginning of 1988 12-month M2 growth has declined a bit, but only a bit. Japan has not been able to sterilize its foreign exchange market intervention.

FALLOUT

Very little of the fallout from the U.S. policy of extensive exchange market manipulation has yet hit the ground. The United States has not itself intervened heavily in the market but has encouraged other countries to do so. The United States has relied on not-so-subtle hints as to the appropriate direction of change for the dollar and has left foreign governments to deal with the resulting exchange market pressures. Rapid money growth in the United States in 1985-86 was transmitted abroad as other countries intervened to keep the dollar from sinking too rapidly. The decline in U.S. money growth in 1988 was fully appropriate but money growth in Germany and Japan has not yet declined very much.

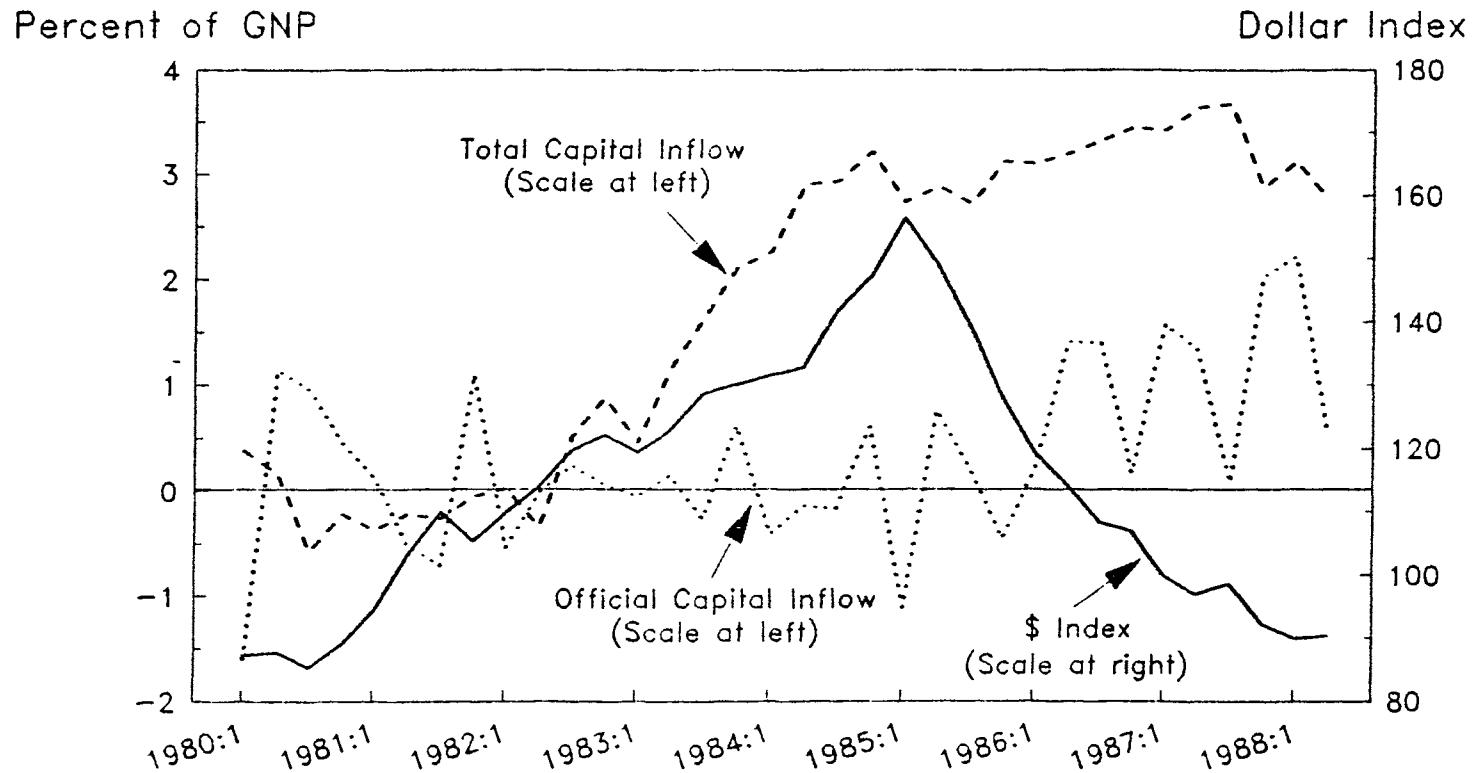
If the United States could now withdraw from efforts to push the exchange rate in the "right" direction, the fallout from the Plaza policy would be limited. But it is very difficult to let go of a policy that on the surface looks good so far. Problems will arise when pressures develop for the dollar exchange rate to adjust substantially in one direction or the other. Will central banks and treasuries be able to let go or will they instead permit monetary policy to be warped by efforts to keep the exchange rate from rising or falling?

Officials have so far been successful in intervening without disclosing to the market an intervention range. My guess is that there is no target for the DM/dollar rate or the yen/dollar rate that has much operational significance. Market participants discuss such target ranges but there is no agreement on what they are. If central banks did intervene to hold the dollar within a target range smart market professionals would by now have uncovered the targets from observing intervention patterns. Official talk suggesting target ranges seems more designed to persuade the market not to move exchange rates too rapidly than to guide actual intervention policy.

Given that there seems to be no exchange rate targets with operational significance, it might be possible for central banks to withdraw from the

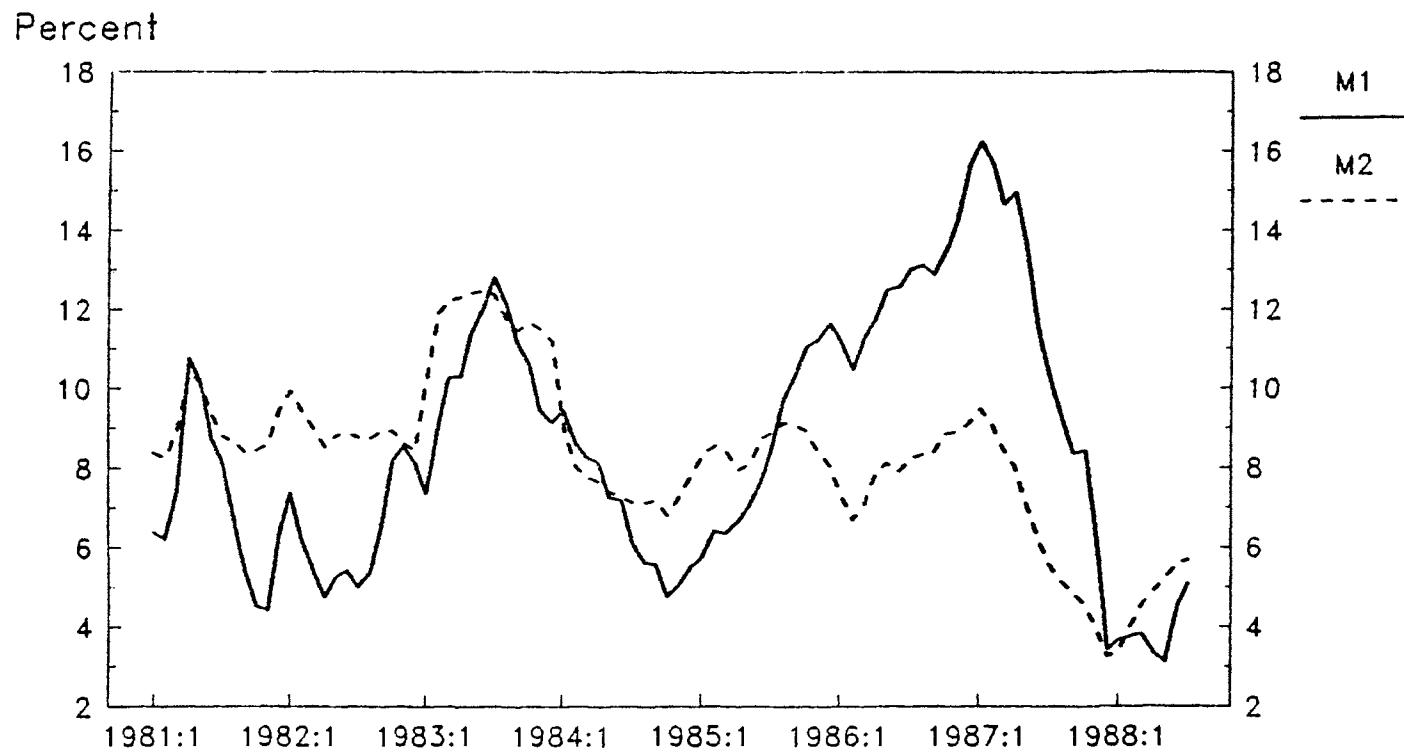
markets without anyone really noticing. There would be a great advantage to doing so to avoid an awkward decision in the future on whether to support a particular dollar range when market fundamentals would push the dollar decisively to a new level. The market will adjust more easily to changed fundamentals in the absence of speculation over how official policy might or might not change and speculation over how the course of domestic monetary policy may be affected by an exchange rate target.

U.S. TOTAL AND OFFICIAL CAPITAL INFLOWS
AS PERCENTAGES OF GNP
AND DOLLAR EXCHANGE RATE INDEX

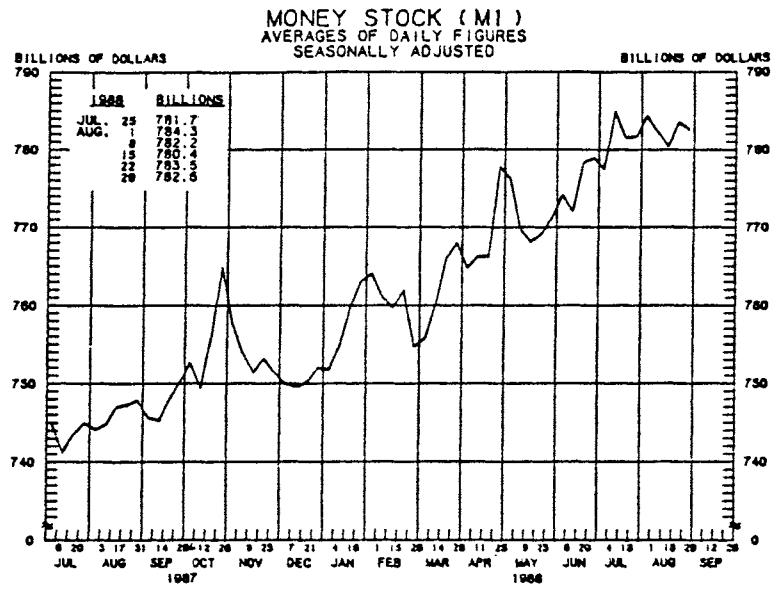


Data through 1988:2

UNITED STATES
MONEY GROWTH
FROM SAME MONTH ONE YEAR EARLIER



Data through July 1988



LATEST DATA PLOTTED WEEK ENDING: AUGUST 29, 1988

CURRENT DATA APPEAR IN THE BOARD OF GOVERNORS' H.6 RELEASE.

M1 IS THE SUM OF CURRENCY HELD BY THE NONBANK PUBLIC, DEMAND DEPOSITS, OTHER CHECKABLE DEPOSITS AND TRAVELERS CHECKS.

MONEY STOCK (M1)

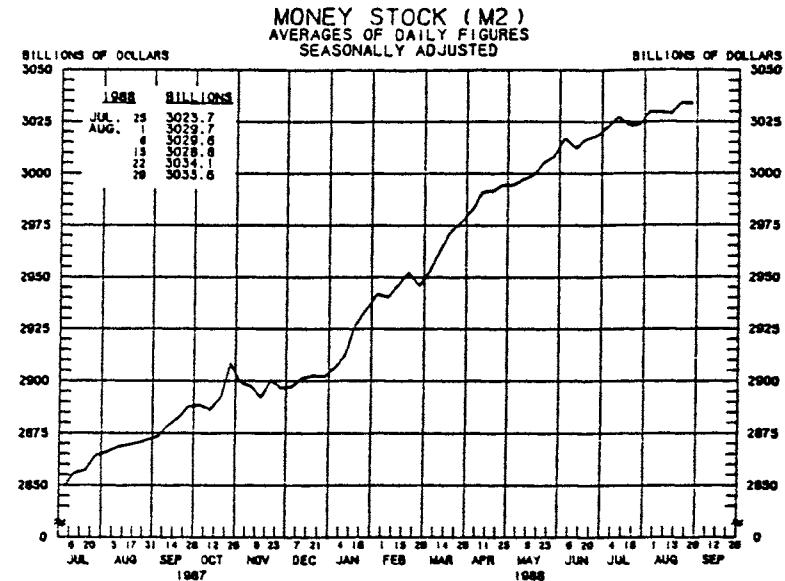
COMPOUNDED ANNUAL RATES OF CHANGE, AVERAGE OF FOUR WEEKS ENDING:

8/31/87	11/30/87	2/1/88	2/29/88	3/28/88	5/2/88	5/30/88	6/27/88
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TO THE AVERAGE OF FOUR WEEKS ENDING:

2/1/88	4.4
2/29/88	3.4
3/28/88	3.7
5/2/88	5.0
5/30/88	4.1
6/27/88	4.7
8/1/88	5.3
8/29/88	4.8
3.4	3.7
4.1	1.7
6.1	8.0
3.7	5.5
5.1	9.7
5.5	5.5
7.2	3.6
6.0	10.7
6.1	10.7
6.2	4.5
4.5	6.8
4.9	4.9

PREPARED BY FEDERAL RESERVE BANK OF ST. LOUIS



LATEST DATA PLOTTED WEEK ENDING: AUGUST 29, 1988

CURRENT DATA APPEAR IN THE BOARD OF GOVERNORS' H.6 RELEASE.

M2 IS THE SUM OF M1, OVERNIGHT RPS ISSUED BY ALL COMMERCIAL BANKS, OVERNIGHT EUROCURRENCY ISSUED TO U.S. RESIDENTS BY FOREIGN BRANCHES OF U.S. BANKS, MONEY MARKET DEPOSIT ACCOUNTS, SAVINGS AND SMALL TIME DEPOSITS, CERTIFICATES OF GENERAL PURPOSE AND BROKER/DEALER MONEY MARKET MUTUAL FUNDS. FOR MORE DETAIL, SEE THE H.6 RELEASE.

MONEY STOCK (M2)

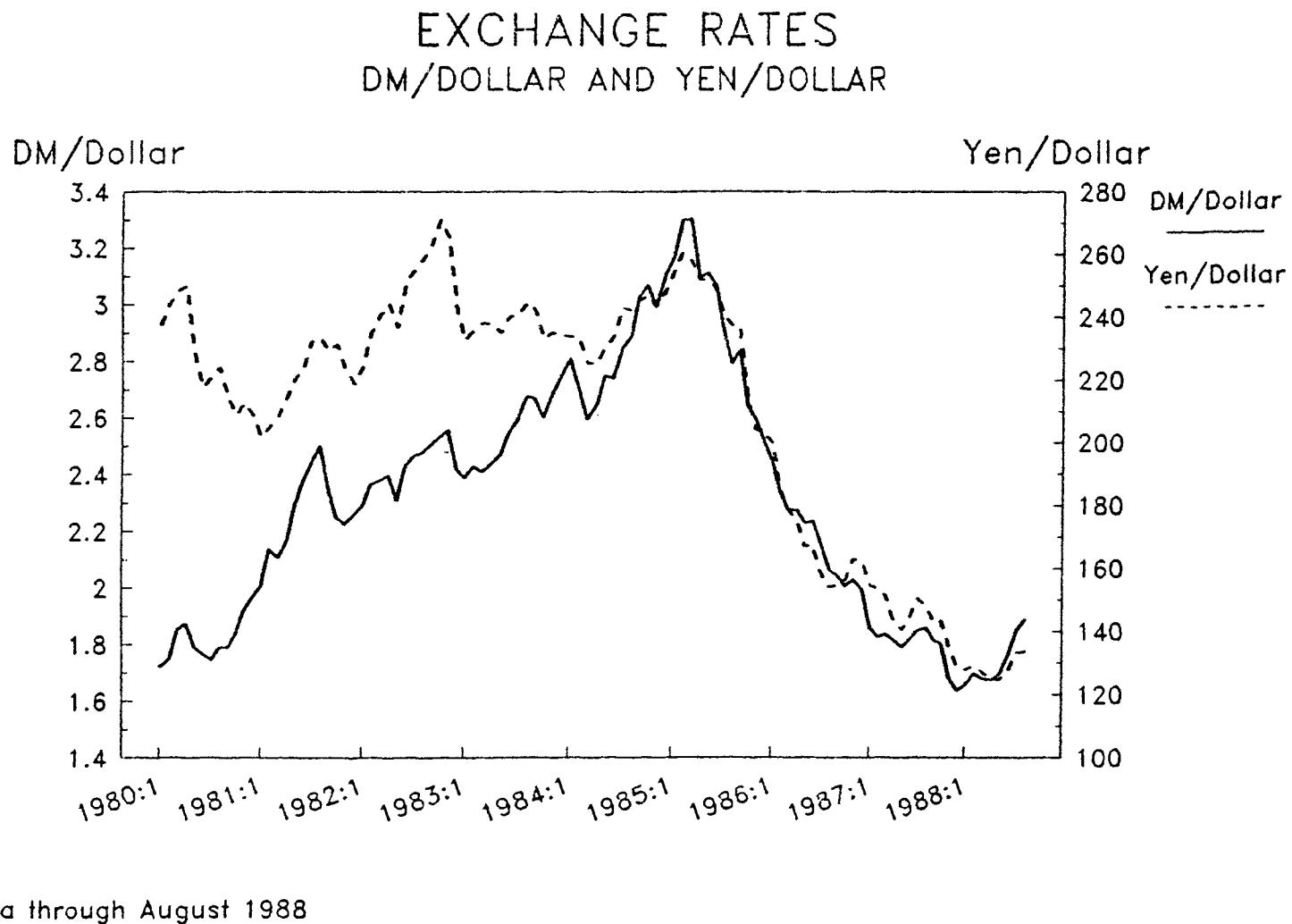
COMPOUNDED ANNUAL RATES OF CHANGE, AVERAGE OF FOUR WEEKS ENDING:

8/31/87	11/30/87	2/1/88	2/29/88	3/28/88	5/2/88	5/30/88	6/27/88
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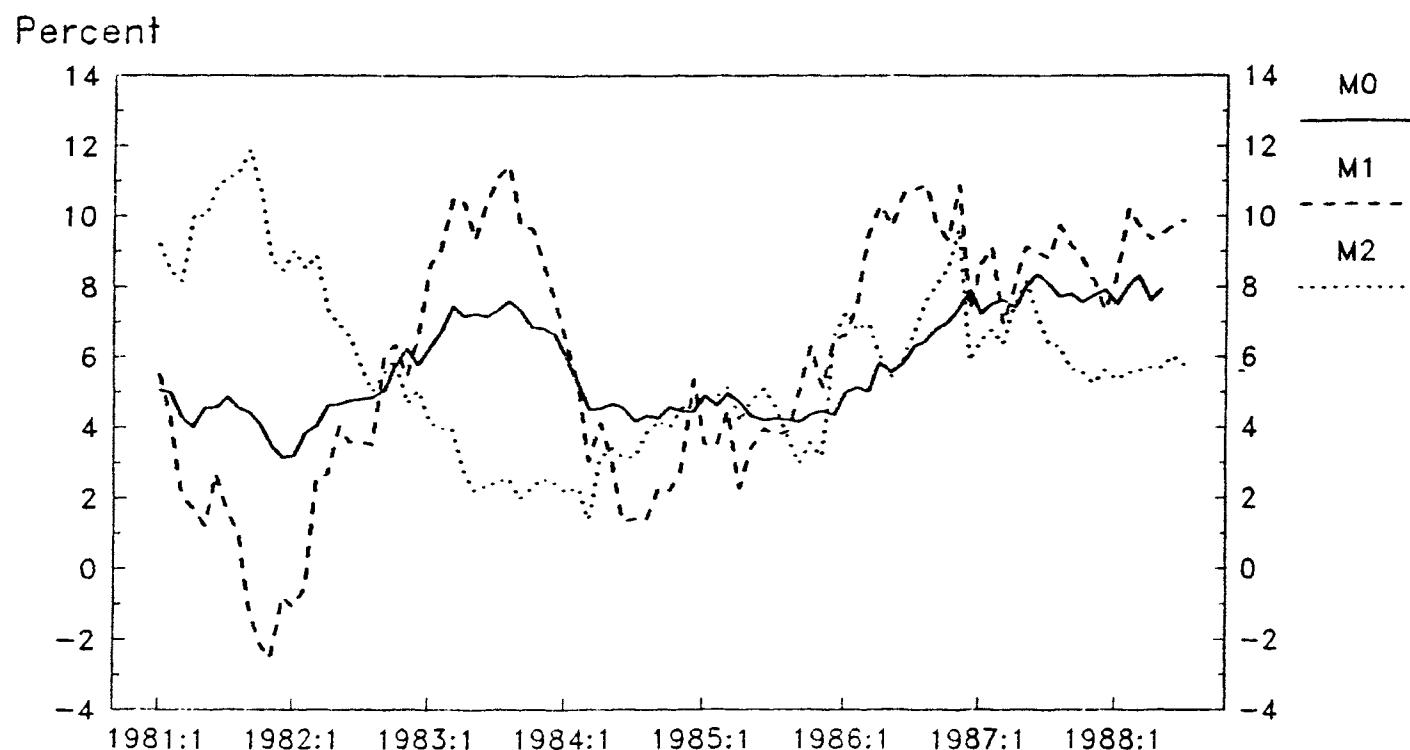
TO THE AVERAGE OF FOUR WEEKS ENDING:

2/1/88	4.9
2/29/88	5.4
3/28/88	5.9
5/2/88	6.4
5/30/88	6.2
6/27/88	6.2
8/1/88	3.9
8/29/88	5.6
4.9	7.0
7.5	8.6
8.0	9.1
7.9	9.3
7.4	7.3
6.8	5.1
6.5	4.5
5.9	4.5
5.3	4.0
5.9	3.9
6.2	3.0

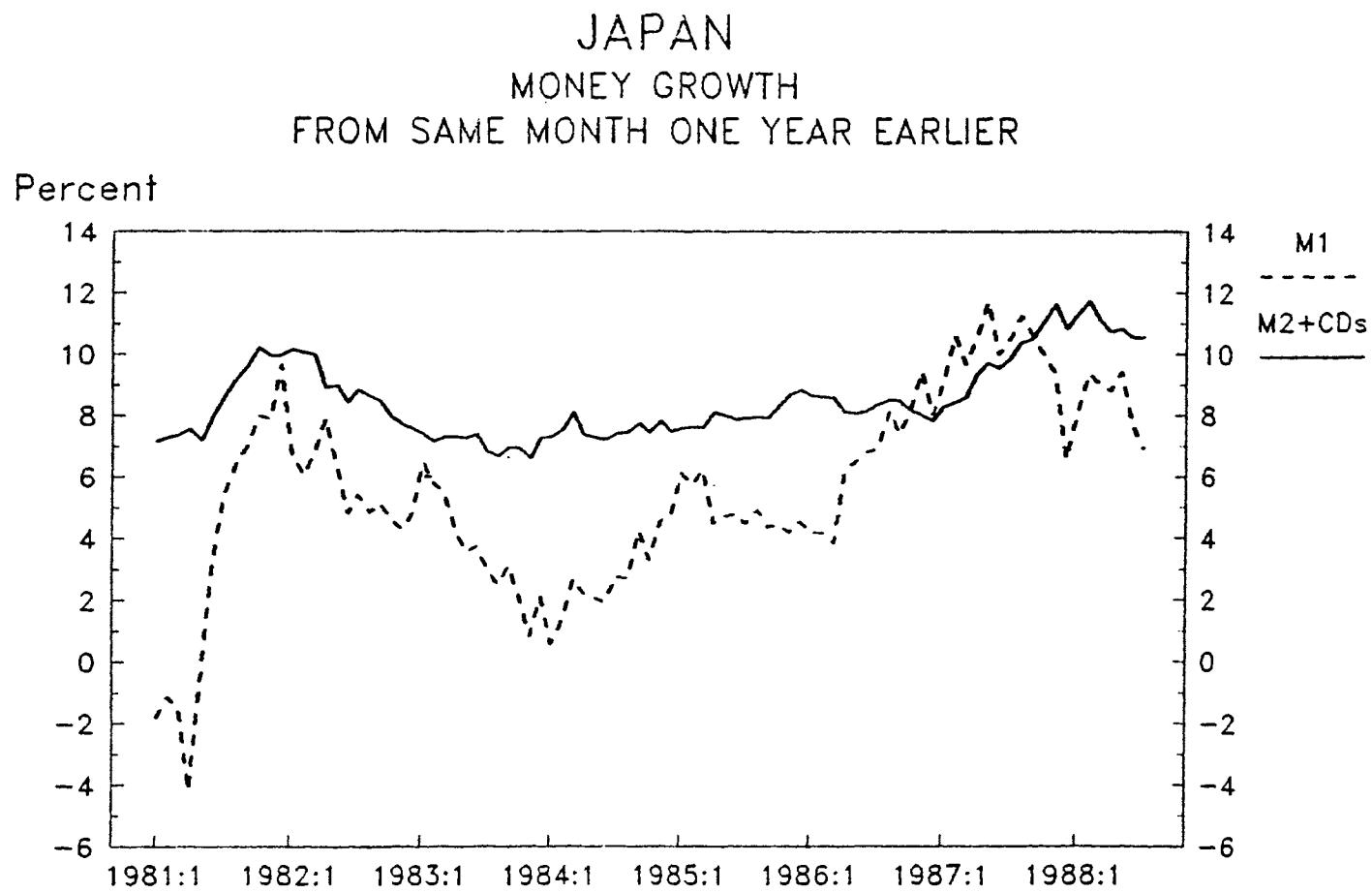
PREPARED BY FEDERAL RESERVE BANK OF ST. LOUIS



GERMANY
MONEY GROWTH
FROM SAME MONTH ONE YEAR EARLIER



Data through July 1988 (M0 through May)



Data through July 1988

A "FAILURE" OF MONETARISM?

Karl BRUNNER

University of Rochester

A consensus emerged on the public market during the early years of the 1980s: "monetarism had failed." This consensus was remarkably incoherent and was not based on any systematic comparative assessment of significant monetarist propositions. The subject of the consensus was moreover frequently not well known (if at all) to many participants in the consensus. A "failure" was discovered in the recession of 1981/82 produced by disinflationary policy, in the decline of monetary velocity, a presumed change in the relation between money and national income, and of course in Milton Friedman's erroneous forecast of incipient inflations several years ago. This error is hardly impressive when compared to the forecasting record of a wide array of econometric models [See Karl Brunner/Allan H. Meltzer, *Money and Income*, Macmillan, London, 1989] or even the Federal Reserve's forecasting record [see Nicholas Karamouzis/Raymond Lombra, "Federal Reserve Policymaking: An Overview and Analysis of the Policy Process," Carnegie-Rochester Public Policy Conference, April 1988].

This note does not address the broad ramifications of the consensus. One particular aspect deserves however some attention as it bears especially on the central concerns of the Shadow Open Market Committee. The issue is the criterion frequently used in the public market to judge the relevance of monetarist policy analysis. This criterion assumes that money policy *can* and *should* control the short-run movements of the economy by suitable activist manipulation. Consider for this purpose the climate of the early Kennedy administration. *Time Magazine* published at the time a lengthy piece glorifying the "new macroeconomics" and its promise for economic stabilization. The President's Council of Economic Advisers peddled the theme, reinforced among the profession, that we had acquired the knowledge and possessed the tools to hold the economy on a stable path avoiding business cycles and recessions. The long expansion phase lasting from early 1961 to the end of 1969 seemed to support the promise. The Vietnam war contributed actually very little. Its impact on the economy remained at a small proportion. Persistent political pressures to maintain expansionary monetary policies, particularly under the Johnson adminis-

tration, stimulated the economy. Inflation emerged as a result. President Nixon was forced to impose a freeze on the prices at a time inflation did not exceed our current "non-inflation." There was also the recession of 1970/71 and the mood gradually changed. The promise seemed to fail. Interest rates, exchange rates, prices and output performed less than desired.

Monetarist ideas meanwhile had gained some attention. Interest was especially motivated by the hope that it will offer a better basis for fine-tuning the economy. This hope was rudely shattered, and unavoidably so. Monetarists never made any claims or promises concerning "fine-tuning." They warned from the beginning that this idea offered a deceptive and dangerous illusion. Two reasons were advanced and elaborated in detail in many papers. The first reason is closely related to an excuse for the failure of "Keynesian fine-tuning" occasionally advanced. The result is attributed to a failure of politicians to shift the gears at the right time, in the right way. But this is precisely what we should expect once a wide discretionary range of action is available to policymakers. This range will in general not be used to pursue a socially optimal stabilization policy. The incentives built into the political process usually induce politicians to exploit the discretionary range for short-run politically motivated actions. The undesired but unavoidably longer run consequences can then always be attributed to evil men or evil forces. It is naive to expect that politicians and policymakers are dominated by a desire to act in the social interest.

The other reason refers to our knowledge available as a basis of activist policymaking. A successful execution of activist, discretionary policy requires in general detailed information about an economy's response structure. Nobody possesses, however, this knowledge, and the exercise of discretion in the absence of such knowledge, threatens to create more problems than it solves.

The search for a successful activist strategy remains thus a futile exercise, an illusion. The SOMC always argued therefore in favor of a long-run strategy with a credible, stable and predictable course of a non-inflationary monetary policy. Apart from defining a transition to such a long-term strategy the SOMC has no interest in relating policy to any particular current situation. Our proposal for policymaking would require major changes in the operations of the Fed's staff and the implementation of policy. The old tradition of discretionary exercises, maintained over decades, still remains

well entrenched at the time. Uncertainty about the Fed's course and the problems experienced with the Fed's policymaking over the past 60 years may well persist, even with a serious commitment to non-inflationary goals.

THE CONTROL OF THE MONETARY BASE AND ITS PURPOSE

Karl BRUNNER

University of Rochester

This note addresses an issue recently raised in a statement prepared by the staff of the Federal Reserve Board for some Congressional hearings. It basically questioned the usefulness of the monetary base as an instrument of monetary control.

The monetary base can be described in two distinct ways; from the uses side (or demand side) and the sources side (or supply side). These two sides correspond to the two sides of the consolidated statement of the Federal Reserve System and the Treasury's monetary account. The uses side expresses the demand for base. It consists of two major components: the public's demand for currency and the financial institutions' demand for reserves to be held against their liabilities. The public's currency component is by far the larger component and dominates the use of the base. This fact is supposed to undermine the use of the monetary base for purposes of monetary control. The volume of currency seemed "obviously" demand determined with a passive adjustment of the monetary base.

We need however to consider also the supply side. The sources base emerges from the operation of asset accounts and some liability accounts of the consolidated statement mentioned above. The Federal Reserve System's earning assets (loans to banks and the portfolio of government securities) dominate by far the supply of base money over longer periods. The sources base is augmented by the "reserve adjustment magnitude" (RAM) to form the monetary base. The RAM incorporates the effect of changing reserve requirements on the banks' reserve position.

The supply side reveals that every change in the monetary base results from corresponding actions of the Fed affecting some accounts of its balance sheet. There will be no change in the volume of the base without some such actions independent of the public's demand for currency. The arrangements governing the supply of the monetary base allow the Fed, if it so wishes, to determine its volume by adjusting suitably its portfolio of assets via market operations. The volume of the monetary base is not inherently demand determined. The Fed possesses both power and opportunity to

set the monetary base at any level it desires, and can do so with a good accuracy over a week. Should it choose such a strategy then the public's demand for currency has no effect on the volume of the base. Its effect is concentrated on the distribution of the base between reserve and currency holding and consequently on the money stock. This pattern persists even with the "passive conversion" of currency into deposits and deposits into reserves by the Fed which maintains the constant exchange ratio.

The Fed may choose on the other hand arrangements which make the volume of base money and currency actually demand determined. A strategy of controlling interest rates would produce this pattern. The prevalence of such strategies in the Fed's history assures us, of course, that the monetary base was to some extent demand determined. It is in a way bitterly ironic, given the Fed's insistence on the demand determined behavior of currency, that this did not hold when it was needed most in order to prevent disaster in the period 1930-1933. The Fed expanded the base somewhat, but failed miserably to adjust fully for the massive increase in currency demand. Other experiences demonstrate moreover the Fed's potential to control the movement of the base irrespective of the public's currency clearance. I mention here just the events of 1920/21, 1930/37 and 1960. The experience of the German Bundesbank and the Swiss National Bank over the past fifteen years also demonstrates a Central Bank's ability to control the monetary base, if it so wishes.

The Fed suggests however that this strategy is not advisable. It argues that control of the monetary base would (or may) produce volatile interest rates. We are apparently confronted with a trade off between stability (or volatility) of monetary aggregates and stability (or volatility) of interest rates. The traditional IS/LM analysis supports this contention. But this analysis disregards a feature of our financial markets of crucial importance in this context, i.e., the existence of a spectrum of interest rates. This radically modifies the implication of the simple IS/LM analysis. More or less transitory shocks concentrate their effects on the short end of the yield curve. Volatile short rates actually function in this case to absorb and smooth the effects of the shocks on the economy. Perceived transitory shocks are not converted into impulses substantially affecting economic activity. More or less permanent shocks modify the position of the yield curve and influence the whole spectrum of interest rates. Attempts to offset these

shocks convert them into monetary shocks contributing to a short-run instability and long-term drift in monetary growth. The result is increased uncertainty about shorter-run economic evolution and longer-term development of the price-level. Specific historical cases yield moreover little support for the contention that comparatively stable and low monetary growth creates more volatile interest rates. A rough comparison of the 1950s or the first half of the 1960s with the 1970s, supports my point. The experience of Switzerland over the past fifteen years is also noteworthy, in particular as it was achieved by a small economy highly interdependent with the European and world economy. A non-inflationary and reliable strategy of a stable monetary growth (with an exception in 1978/79) produced highly stable interest rates at a low level ranging from short-term rates at a low level ranging from short-term rates to interest rates on mortgages.

The final objection to be considered emphasizes that monetary control exercised via the monetary base will yield quite unimpressive results when assessed in terms of the movement in economic activity. This may be the case. But the implicit criterion used in such judgments and the alternative favored by the Fed need be examined. We should recognize that under the first issue the policymakers pursue a dangerous illusion. Monetary policy as an instrument for the short-run manipulation of economic activity suffers from two severe limitations. First, it cannot permanently raise (or lower) output and employment, nor permanently raise (or lower) the economy's rate of real growth. The conventional wisdom on the public market which juxtaposes "growth policy" via inflation and non-inflationary "anti-growth policy" forms an important dimension of the prevalent illusion. Second, we do not possess the detailed knowledge about the economy's response structure required for successful manipulation. Attempts at short-run manipulation necessarily fail in general under the circumstances of our incomplete and unreliable knowledge. Control of the monetary base should address a long-term goal. This control needs to produce a predictable, comparatively stable and non-inflationary monetary growth. It should substantially lower short-run uncertainty about monetary evolution and long-term uncertainty about the price-level. This program seems modest when compared with the ambitions of short-run manipulation. It can however be achieved and will remove some of our problems (volatile and high interest rates, volatile exchange rates, inflation).

One major advantage of a monetary strategy executed via control of the monetary base involves the reliable interpretation of monetary events. The systematic misinterpretations guiding Federal Reserve policy on many occasions in the past sixty years with some tragic consequences would be impossible. The Fed favored in general a strategy relying in one form or another on money market conditions. This framework misled the Fed into believing in 1930 that it had done everything which it possibly could do to stem the deflationary tide, when it actually had contributed to the tide. Allan H. Meltzer and I prepared in 1963/64 a detailed study on Federal Reserve Policymaking for the Committee on Banking and Currency of the House of Representatives. We showed in this study how the Fed's favored strategy produced systematic misinterpretations over many years of the prevailing monetary state. We showed in particular that the Fed's actions and its interpretation of these actions are negatively correlated. Such avoidable misconceptions deepened and lengthened the Great Depression, produced the recession of 1937/38 and affected events in the postwar period. A strategy relying on the monetary base as an instrument of monetary control would have avoided such misconceptions and the resulting errors in policymaking.

TABLES

Karl Brunner
University of Rochester

TABLE 1
Regressions of General Price Level on Sensitive Commodity Prices

**1. Percentage Change in GNP Deflator on Percentage Change on SCI
(backward and forward 4 quarters)**

R-Square 0.1318
Adj R-Sq. 0.0987

Variable	Parameter Estimate	T for HO: Parameter=0
Intercep	0.010646750	17.869
SCI	0.000055078	0.114
L1	0.000444361	0.929
L2	-0.000021010	-0.043
L3	0.000821504	1.709
L4	0.001175130	2.445

Durbin-Watson D 0.580
1st Order Autocorrelation 0.703

SCI = Sensitive Crude and Interim Products Prices

**2. Percentage Change in GNP Deflator on Percentage Change of SCI
(backward and forward 4 quarters)**

R-Square 0.1546
Adj R-Sq. 0.0928

Variable	Parameter Estimate	T for HO: Parameter=0
Intercep	0.010616470	16.749
SCI99	-0.000270981	-0.359
B1	0.000604610	0.779
B2	0.000347276	0.447
B3	0.001225862	1.616
B4	0.002043219	2.798
A1	0.000226186	0.293
A2	0.000318271	0.413
A3	0.000487775	0.652
A4	0.000117320	0.162

Durbin-Watson D 0.602
1st Order Autocorrelation 0.696

SCI = Sensitive Commodity Prices

TABLE 2
Proportion of Federal Expenditures on Defense to GNP
A Comparison of Two "Postwar Wars:" Korea and Vietnam

1Q1950	.048
3Q1952	.135
4Q1954	.102
4Q1955	.092
1Q1965	.071
3Q1967	.091
4Q1971	.066

TABLE 3
Proportions of Various National Income Categories in Nominal Terms of
Nominal GNP

Year	Qtr.	GPGS	FGPGS	FDE	TGE	TRE
1946	1	.165	.120	.109	.221	.065
1950	1	.141	.070	.048	.177	.078
1960	1	.189	.103	.087	.176	.043
1970	1	.216	.101	.079	.198	.056
1980	1	.190	.074	.051	.216	.087
1988	1	.203	.081	.064	.234	.093

GPGS = Government Purchases of Goods and Services
 FGPGS = Federal Government Purchases of Goods and Services
 FDE = Federal Defense Expenditures
 TGE = Total Government Expenditures
 TRE = Transfer Expenditures

TABLE 4
Average Quarterly Growth at Annual Rates Over Postwar Halfcycles

1/2 cycles	GNP	PC	FGPGS	GPGS	FDE	PI
48Q4/49Q4	-0.46	0.53	-0.42	1.53	0.35	na
49Q4/53Q2	1.91	0.96	6.70	4.34	8.51	na
53Q2/54Q2	-0.79	0.33	-4.74	-2.62	-4.72	-2.17
54Q2/57Q3	0.85	0.97	-0.72	0.07	-0.78	1.45
57Q3/58Q2	-1.09	0.16	-0.08	0.93	-0.91	-6.31
58Q2/60Q1	1.41	1.07	-0.46	0.09	-0.50	4.81
60Q1/61Q1	-0.02	0.29	1.07	1.50	0.89	-4.80
61Q1/69Q4	1.06	1.08	0.70	0.95	0.59	1.48
69Q4/70Q4	-0.08	0.41	-2.67	-0.65	-3.17	-1.36
70Q4/73Q2	1.27	1.19	-0.98	-0.03	-1.68	3.19
73Q2/75Q1	-0.52	-0.08	-0.59	0.21	-1.17	-4.90
75Q1/80Q1	1.01	0.92	0.36	0.34	0.23	2.03
80Q1/80Q3	-1.12	-0.44	1.00	0.29	0.77	-8.71
80Q3/81Q3	0.82	0.44	1.43	0.35	1.29	4.53
81Q3/82Q4	-0.67	0.46	1.94	0.92	2.06	-6.32
82Q4/88Q1	1.07	0.99	0.59	0.78	1.30	2.80

Sources: Citibase & Business Conditions Digest