Monetary policy can be discussed on two very different levels: the tactics of policy—the specific actions that the monetary authorities should take; and the strategy or framework of policy—the ideal monetary institutions and arrangements for the conduct of monetary policy that should be adopted.

Tactics are more tempting. They are immediately relevant, promise direct results, and are in most respects easier to discuss than the thorny problem of the basic framework appropriate for monetary policy. Yet long experience persuades me that, given our present institutions, a discussion of tactics is unlikely to be rewarding.

The temptation to concentrate on tactics derives in considerable part from a tendency to personalize policy: to speak of the Eisenhower, Kennedy, or Reagan economic policy and the Martin, Burns, or Volcker monetary policy. Sometimes that approach is correct. The particular person in charge may make a major difference to the course of events. For example, in Monetary History, Anna Schwartz and I attributed considerable importance to the early death of Benjamin Strong, first governor of the Federal Reserve Bank of New York, in explaining monetary policy from 1929 to 1933. More frequently perhaps, the personalized approach is misleading. The person ostensibly in charge is like the rooster crowing at dawn. The course of events is decided by deeper and less visible forces that determine both the character of those nominally in charge and the pressures on them.

Monetary developments during the past few decades have, I believe, been determined far more by the institutional structure of the Federal Reserve and by external pressures than by the intentions, knowledge, or personal characteristics of the persons who appeared to be in charge. Knowing the name, the background, and the personal qualities of the chairman of the Fed, for example, is of little use in judging what happened to monetary growth during his term of office. If the present monetary structure were producing satisfactory results, we would be well advised to leave it alone. Tactics would then be the only topic. However, the present monetary structure is not producing satisfactory results. Indeed, in my opinion, no major institution in the United States has so poor a record of performance over so long a period yet so high a public reputation as the Federal Reserve.

The conduct of monetary policy is of major importance: monetary instability breeds economic instability. A monetary structure that fosters steadiness and predictability in the general price level is an essential precondition for healthy noninflationary growth. That is why it is important to consider fundamental changes in our monetary institutions. Such changes may be neither feasible nor urgent now. But unless we consider them now, we shall not be prepared to adopt them when and if the need is urgent.
Overview of Federal Reserve Performance

In Monetary History, Anna Schwartz and I examined the performance of the Federal Reserve System in great detail from 1914, when it began operation, to 1960. Here, I shall touch on only a few highlights and then examine more closely the period since 1960.

From 1914 to 1960

The Federal Reserve was established to prevent banking panics, not to control the quantity of money. When the Fed began operations in 1914, the gold standard reigned supreme, and it was taken for granted that it would continue to do so. However, the breakdown of the gold standard during World War I drastically changed the role of the Federal Reserve. It quickly became the full-fledged monetary authority, with power to determine the quantity of money, that it has remained ever since—despite the temporary reinstatement of an anemic gold standard during the 1920s and the link between the dollar and gold forged at Bretton Woods after World War II.

During World War I, the Fed mediated wartime inflation—a development that would have occurred with or without the Fed. However, under earlier monetary arrangements, rapid monetary expansion would have ended with the war. This time, the Fed continued an “easy” money policy, creating reserves to finance business rather than government. The result was that monetary growth continued, indeed accelerated, after the end of the war and inflation did not peak until eighteen months later. The postwar price rise accounted for something like one-third of the total inflation of about 150 percent associated with World War I. By comparison, the Civil War inflation peaked in January 1865, a few months before the end of the war.

In 1920, the Fed for the first time acted in a way that later came to be a common feature of its behavior: it went from one extreme to the other, stepping sharply on the monetary brakes, so that the monetary growth went from +15 percent per year to −6 percent per year. The resulting contraction of 1920–21, though relatively brief, was one of the most severe in business cycle annals.

Schwartz and I characterized the years from 1923 to 1929 as the “high tide” of the Federal Reserve System. During this period, it gained the great prestige at home and abroad that it has never lost.

The years from 1929 to 1939 could be characterized as the low tide of the Fed. From 1929 to 1933, the Fed permitted the quantity of money to decline by one-third. A system established largely to prevent banking panics presided over by far the worst series of panics in the country’s history. During the long, extended course of those panics, one-third of the country’s banks went out of business. The process ended in an unprecedented banking holiday in which the central bank itself closed its doors. It is easy to sympathize with Treasury Secretary Ogden Mills’s 1932 comment: “For a great central banking system to stand by … without taking active steps in such a situation was almost inconceivable and almost unforgivable”; and with Herbert Hoover’s comment in his Memoirs: “I concluded [the Reserve Board] was indeed a weak reed for a nation to lean on in time of trouble” (Monetary History, pp. 385, 328). Our own view was that “if the
pre-1914 banking system rather than the Federal Reserve System had been in existence in 1929,”
the crisis would have been much less severe, would have ended much earlier, and would not
have been accompanied by the collapse of the banking system.

During the rest of the 1930s, the system was largely passive. Active monetary policy was
conducted by the Treasury, with one notable exception: the use of newly granted powers to
double reserve requirements in 1936, which led to another shift from rapid monetary growth to
sharp decline and produced, or at least intensified, the severe contraction of 1937 to 1938.

World War II was largely a replay of World War I. The Fed again presided over a rapid wartime
expansion in the quantity of money and again continued the expansion after the war ended. As a
result, the wartime inflation did not peak until August 1948, 36 months after the end of the
war—twice as long a delay as after World War I—and the postwar rise accounted for an even
larger part of the total inflation.²

The Korean War was accompanied by another burst of inflation—but this time, one that cannot
be attributed to Federal Reserve action. The Korean inflation is the only inflationary episode I
know about, in the United States or any other country, that reflected primarily an autonomous
rise in velocity rather than prior excessive monetary growth. The outbreak of war only five years
after the end of World War II and less than two years after the peak of the World War II inflation
reawakened fears of inflation, which in turn produced a flight from money—that is, a sharp rise
in velocity.

The Korean War episode helped to produce the famous Treasury–Federal Reserve Accord,
which ended the Fed’s commitment to pegging the prices of U.S. government securities and
enabled the Fed to become largely independent of the Treasury for the first time since 1933. It
also paved the way for a continuation of a relatively stable rate of monetary growth.

From 1960 to October 1979

Monetary restraint, encouraged by President Eisenhower’s willingness to tolerate two recessions
within four years (1957–58 and 1960–61) in order to bring down inflation, eliminated inflation
by 1960. The end of inflationary expectations laid the groundwork for a long expansion from
1961 to 1966—the postwar “high tide” of the Federal Reserve System comparable to the 1923–
1928 period.³ As then, this proved a passing phase, although the immediate aftermath was
inflation rather than depression. The rate of monetary growth roughly doubled after 1960. At
first, the effect was rapid economic growth, but then inflation started to gain ground, leading to a
brief period of monetary restraint and a mini-recession from 1966 to 1967.

This episode was the beginning of a roller coaster of monetary growth, inflation, and
unemployment that dominated the 1960s and 1970s. Each increase in monetary growth was
followed by a rise in inflation, which led the authorities to reduce monetary growth sharply,
which in turn produced economic recession. The political pressures created by rising
unemployment led the Fed to reverse course at the first sign that inflation was tapering off. The
Fed took its foot, as it were, off the brake and stepped on the gas. After an interval of about six
months, the acceleration in monetary growth was followed by economic recovery, then a decline in unemployment, and, after another year or so, by accelerated inflation.

This roller coaster was superimposed on a rising trend. Each peak in monetary growth was higher than the preceding peak; each trough in monetary growth higher than the preceding trough. Each inflationary peak was higher than the preceding peak; each inflationary trough higher than the preceding trough. Similarly, at each peak in the economy, unemployment was higher than at the preceding peak, and at each trough in the economy, unemployment was higher than at the preceding trough.

Monetary growth during the 1960s, while high enough to rekindle inflation, was nonetheless relatively stable, which explains why there was only a mini-recession during the decade. But then it became decidedly more erratic, with sharp ups and downs. The result was a more erratic economy as well.

Rising concern about inflation, and growing recognition of the role played by monetary growth in producing inflation, led Congress in 1975 to require the Federal Reserve to specify targets for monetary growth. However, the Federal Reserve, which had opposed the congressional action, succeeded in rendering the requirement largely meaningless by (1) introducing a multiplicity of monetary aggregate measures; (2) specifying targets in terms of a range of growth rates, rather than dollar levels; and (3) shifting the base to which it applied its growth rates every quarter.

In practice, it continued to target interest rates, specifically the federal funds rate, rather than monetary aggregates, and continued to adjust its interest rate targets only slowly and belatedly to changing market pressure. The result was that the monetary aggregates tended on average to rise excessively, contributing to inflation. However, from time to time, the Fed was too slow in lowering rather than in raising the federal funds rate. The results were a sharp deceleration in the monetary aggregates and an economic recession. The time duration of these swings was relatively long—short gyrations lasting about six months; longer waves rising for two to three years and falling for a year or less. Changes in rates of monetary growth were followed by changes in the same direction in both interest rates and economic activity after about six months and by changes in the same direction in inflation after about two years.

October 1979 to Summer 1982

By 1979, inflation and interest rates had both reached double digits, and a flight from the dollar, which had begun in 1978, accelerated. On October 6, 1979, following pressure at an International Monetary Fund meeting in Belgrade, Paul Volcker announced a major change in monetary policy “to support the objective of containing growth in the monetary aggregates” by “placing greater emphasis in day-to-day operations on the supply of bank reserves and less emphasis on confining short-term fluctuations in the federal funds rate.” The change was intended to produce lower and steadier monetary growth, at the cost, it was believed, of more variable short-term interest rates.

Unfortunately, while the objective was excellent, the execution was not. The Fed tried to achieve its new objectives by modifying its earlier procedures without changing its regulations. In
particular, lagged reserve requirements, which had hindered the achievement of earlier objectives to a minor extent, proved an extremely serious hindrance to achieving the new objectives.\(^5\)

As a result, while average monetary growth was lower after the change than before—which accounts for the subsequent decline in inflation—monetary growth became much more variable after the change rather than steadier. The period of the gyrations also shortened. The short gyrations lasted about one quarter, the longer waves about one year or less.

Interest rates and economic activity followed suit, fluctuating more violently and over shorter periods than earlier. In addition, the lag between changes in monetary growth and subsequent changes in interest rates, economic activity, and inflation shortened: from six months to about three months for interest rates and economic activity; from two years to a little more than one year for inflation.

Table 2.1, based on quarterly data, summarizes the experience since the change in monetary policy. To the best of my knowledge, no earlier three-year period since the Fed was established shows such wide fluctuations in either monetary growth or economic activity.
Table 2.1
The Impact of Changes in Monetary Growth on Nominal and Real GNP and the Three-Month Treasury-Bill Rate

<table>
<thead>
<tr>
<th>Annual Rate of Growth</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>GNP (percentages)</td>
</tr>
<tr>
<td></td>
<td>In current dollars</td>
</tr>
<tr>
<td>Period for monetary growth (year and quarter)</td>
<td>No. of quarters</td>
</tr>
<tr>
<td>79:4 to 80:2</td>
<td>2</td>
</tr>
<tr>
<td>80:2 to 81:2</td>
<td>4</td>
</tr>
<tr>
<td>81:2 to 81:4</td>
<td>2</td>
</tr>
<tr>
<td>81:4 to 82:1</td>
<td>1</td>
</tr>
<tr>
<td>82:1 to 82:3</td>
<td>2</td>
</tr>
<tr>
<td>82:3 to 83:2</td>
<td>3</td>
</tr>
<tr>
<td>79:4 to 83:2</td>
<td>14</td>
</tr>
</tbody>
</table>

<sup>a</sup>Currency and all checking-account deposits.

<sup>b</sup>M1 plus savings and small time deposits.

Since Summer 1982

Around July 1982, the Federal Reserve again appears to have made a major change in its operating procedures. By contrast with October 1979, however, it made no public announcement. On the contrary, it stated that it had not changed its procedures, but was giving less attention to M1 (currency and checking-account deposits) simply because institutional changes were introducing erratic disturbances into M1.

To judge from its behavior, the Fed reverted to its pre–October 1979 policy of targeting interest rates and of delayed adjustment to market pressures affecting interest rates. The result, as earlier, was surrender of control over the monetary aggregates. In the twelve months from July 1982 to July 1983, M1 rose at a rate of 13.5 percent per year.
The shift to the earlier policy appears to have been accompanied by a return to the earlier relation between monetary growth and interest rates and economic activity. Money growth accelerated in July 1982. On the 1979–1982 pattern, interest rates might have been expected to decline for about one to three months thereafter and then start rising. On the pre-1979 pattern, the lag was about six months. After money growth accelerated in July 1982, interest rates did decline sharply for about two months. But they were stable for the next few months and then started to rise.

Similarly, on the 1979–1982 pattern, the economy might have been expected to begin recovering about three months after money accelerated, or in October 1982; in the pre-1979 pattern, not until six months later, or January 1983. The economy apparently reached its trough and started recovering in November 1982, or four months after the acceleration in monetary growth—moving toward the earlier pattern but still closer to the later one.

**Summary**

To summarize this 69-year record: two major wartime inflations; two major depressions; a banking panic far more severe than was ever experienced before the Federal Reserve System was established; a succession of booms and recessions; a post-World War II roller coaster marked by accelerating inflation and terminating in four years of unusual instability—the whole relieved by relative stability and prosperity during the two decades after the Korean War.

Granted, the Fed alone is not to blame for this dismal record. Yet it is—to put it mildly—hardly an impressive performance compared either to our nation’s experience before the Federal Reserve System was established or to the record of some other nations with a different monetary structure. It is time for a change.

**Economic Stability and Monetary Stability**

Is monetary stability important? For that we turn to the evidence on the relation between stability in the rate of growth of the quantity of money, on the one hand, and stability in the economy, on the other.

The evidence consists of two parts: (1) the systematic cyclical behavior of the quantity of money and its relation, on a cycle-by-cycle basis, to the subsequent behavior of the economy; (2) the linkage over time between instability in monetary growth and instability in the economy.

Anna Schwartz and I have examined the cyclical behavior of the quantity of money in the United States for the whole period since 1867. Throughout that period, monetary growth has risen and fallen not with but before economic activity. The cyclical peak of monetary growth regularly precedes the cyclical peak of economic activity by an interval that varies a good deal, but on the average is something like six to nine months; the cyclical trough of monetary growth regularly precedes the cyclical trough of economic activity by an average interval of roughly the same length. Moreover, sizable monetary accelerations and decelerations tend to be followed by sizable expansions and contractions in economic activity; modest accelerations and decelerations, by modest expansions and contractions.
The evidence is particularly strong for such major movements in income as occur during major contractions and major booms—the contractions of 1873 to 1879, 1892 to 1894, 1895 to 1896, 1907 to 1908, 1920 to 1921, 1929 to 1932, 1937 to 1938, and all the major inflationary expansions. For these, the evidence is extremely strong that large changes in monetary growth are both a necessary and a sufficient condition for large changes in nominal income.\(^6\)

Further evidence for the importance of monetary stability is the comparison between the variability in money and in income over more than a century presented in Figure 2.1, which plots moving standard deviations for four-year periods of annual rates of change in money and in income, as measured by the net national product. This chart slightly revises and updates a chart prepared more than two decades ago, yet the description of the earlier chart will do for this one as well:

The two curves parallel one another with a high degree of fidelity, especially when it is borne in mind that standard deviations based on only four observations (three degrees of freedom) are subject to a good deal of sampling variation, that the net national product and money series are, so far as we know, wholly independent in their statistical construction, and that both are subject to an appreciable margin of error.\(^7\)

**Figure 2.1 Monetary and Economic Volatility: Moving Four-Year Standard Deviations of Annual Rates of Change in Money and in Income, 1869–1981**

For the 114 years as a whole, the correlation between the two series is .776. Omitting the years before 1898, when the statistical quality of the income data improved, gives an even higher correlation, .858. For the period since 1898, monetary variability is highly correlated with the variability both of real income (correlation = .767) and prices (correlation = .706).

In a recent paper, Robert J. Gordon presented evidence on the variability of money, nominal income, real income, and prices from 1908 to 1980.\(^8\) His basic data are the same or closely related to those we used and hence do not represent independent additional evidence on the
relation between monetary and economic variability. However, he converted the original data to deviations from trend, or, as he described them, “natural” growth rates, and calculated standard deviations for seven distinct periods, rather than moving standard deviations. Some of his results are presented in Table 2.2, as a supplement to Figure 2.1. They clearly reinforce the evidence from our correlations: periods of high monetary variability are periods of high variability in nominal and real income and, with one exception, of prices. His data also reveal an important detail that comes out less clearly in our chart: during and after World War II, the variability of nominal income was decidedly less relative to that in money than earlier. In each earlier period, the variability of nominal income was twice or more that in money; thereafter, between one and one and a half times. I have no good explanation for this change but suspect that it may result more from changes in the statistical quality of the income data than from a structural change in economic relationships.

### Table 2.2 Monetary and Economic Variability in Seven Subperiods, 1908 to 1914
(calculated from quarterly data)

<table>
<thead>
<tr>
<th>Period (year and quarter)</th>
<th>Standard deviations of deviations of quarterly growth rates from trend or natural growth rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Money (M2)</td>
</tr>
<tr>
<td>1908:4 to 1914:4</td>
<td>2.9</td>
</tr>
<tr>
<td>1915:1 to 1922:4</td>
<td>10.1</td>
</tr>
<tr>
<td>1923:1 to 1929:3</td>
<td>4.1</td>
</tr>
<tr>
<td>1929:4 to 1941:4</td>
<td>12.3</td>
</tr>
<tr>
<td>1942:1 to 1953:4</td>
<td>8.5</td>
</tr>
<tr>
<td>1954:1 to 1967:2</td>
<td>2.6</td>
</tr>
<tr>
<td>1967:3 to 1980:4</td>
<td>3.5</td>
</tr>
</tbody>
</table>

**Source:** Robert J. Gordon, “Price Inertia and Policy Ineffectiveness in the United States, 1890–1980,” *Journal of Political Economy* 90 (1982): 1100, Table 1. Copyright 1982 by The University of Chicago Press. All rights reserved.

Quarterly data for the period since the end of World War II yield similar, though less striking, results, as Table 2.3 shows for four-quarter and twelve-quarter moving standard deviations. In general, the correlations are decidedly lower for the period as a whole than for each part separately. The reason is a sharp drop in the variability of GNP between the first period and the second—a phenomenon that I am tentatively inclined to attribute to the effect of the Korean War, which, as noted earlier, produced unusually wide movements in velocity.
Table 2.3 Monetary and Economic Variability, Post–World War II Quarterly Data  
(correlations between logarithms of moving standard deviations)

<table>
<thead>
<tr>
<th>Period</th>
<th>Item</th>
<th>GNP</th>
<th>Real GNP</th>
<th>Implicit price deflator</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Correlation with</td>
<td>M1</td>
<td>M2</td>
<td>M1</td>
</tr>
<tr>
<td></td>
<td>GNP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-Quarter Moving Standard Deviations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(quarters)</td>
<td>0</td>
<td>–1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>(quarters)</td>
<td>0</td>
<td>2</td>
<td>–1</td>
</tr>
<tr>
<td>1947–1982</td>
<td>Maximum correlation Lead of M</td>
<td>.694</td>
<td>.325</td>
<td>.344</td>
</tr>
<tr>
<td></td>
<td>(quarters)</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>12-Quarter Moving Standard Deviations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1947–1963</td>
<td>Maximum correlation Lead of M</td>
<td>.582</td>
<td>.517</td>
<td>.671</td>
</tr>
<tr>
<td></td>
<td>(quarters)</td>
<td>0</td>
<td>–1</td>
<td>0</td>
</tr>
<tr>
<td>1961–1982</td>
<td>Maximum correlation Lead of M</td>
<td>.505</td>
<td>.531</td>
<td>.531</td>
</tr>
<tr>
<td></td>
<td>(quarters)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1947–1982</td>
<td>Maximum correlation Lead of M</td>
<td>.305</td>
<td>.042</td>
<td>.254</td>
</tr>
<tr>
<td></td>
<td>(quarters)</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

*Period refers to dates of rates of change used in calculating the moving standard deviations.

The evidence is clear: variability in the rate of monetary growth is associated with variability in economic growth. High monetary variability accompanies high economic variability, and vice versa.9

It is important to stress two points about this relationship. First, it has persisted despite substantial changes in monetary institutions: from a fairly rigorous gold standard before World War I to a much looser gold standard followed by a purely fiduciary standard; from the period before to the period after the establishment of the Federal Reserve System. The implication is that the direction of influence is from monetary variability to economic variability, not the
reverse—a conclusion that Schwartz and I have documented repeatedly on the basis of very different evidence. The second point is related to the first. The Federal Reserve has sought to use monetary policy to stabilize the economy—that is, to vary monetary growth in order to offset forces introducing disturbances into the economy. Had it succeeded, high monetary variability would have been associated with low economic variability, not with high economic variability. The correlations between the moving standard deviations that we have calculated would have been negative or zero, rather than systematically positive. The implication is again that monetary variability has been a source of economic variability, not an offset.

These two points buttress a single conclusion: it is important to reduce monetary variability. In considering proposals for monetary reform, we should give that objective high priority.

The Tactics of Monetary Policy

Three issues are involved in the tactics of monetary policy: adopting a variable or variables as intermediate target or targets; choosing the desired path of the target variables; devising procedures for achieving that path as closely as possible.

The Intermediate Targets

The Fed has vacillated between using one or more interest rates or one or more monetary aggregates as its intermediate targets. In the past decade, however, it joined monetary authorities in other countries in stressing monetary growth. Since 1975, it has been required by Congress to specify explicit numerical targets for the growth of monetary aggregates. Although many proposals have recently surfaced for the substitution of other targets—from real interest rates to sensitive commodity prices to the price of gold to nominal GNP—I shall assume that one or more monetary aggregates remains the intermediate target.

In my opinion, the selection of a target or of a target path is not and has not been the problem. If the Fed had consistently achieved the targets it specified to Congress, monetary growth would have been highly stable instead of highly variable, inflation would never have become the menace it did, and the United States would have been spared the worst parts of the punishing recession (or recessions) from 1979 to 1982.

The Fed has specified targets for several aggregates primarily, as I have argued elsewhere, to obfuscate the issue and reduce accountability. In general, the different aggregates move together. The exceptions have essentially all been due to the interest rate restrictions imposed by the Fed under Regulation Q and the associated development of new forms of deposit liabilities. And they would not have arisen if the Fed had achieved its targets for any one of the aggregates.

The use of multiple intermediate targets is undesirable. The Fed has one major instrument of monetary control: control over the quantity of high-powered money. With one instrument, it cannot independently control several aggregates. Its other instruments—primarily the discount

From The Collected Works of Milton Friedman, compiled and edited by Robert Leeson and Charles G. Palm.
rate and reserve requirements—are highly defective as instruments for monetary control and of questionable effectiveness in enabling it to control separately more than one aggregate.\textsuperscript{15}

It makes far less difference which aggregate the Fed selects than that it select one and only one. For simplicity of exposition, I shall assume that the target aggregate is M1 as currently designed. Selection of another aggregate would alter the desirable numerical targets but not their temporal pattern.

\textit{The Target Path}

A long-run growth rate of about 1 to 3 percent per year for M1 would be roughly consistent with zero inflation.\textsuperscript{16} That should be our objective. Actual growth in M1 was 8.5 percent from fourth quarter 1981 to fourth quarter 1982. A crucial question is how rapidly to go from that level to the 1 to 3 percent range. In my opinion, it is desirable to proceed gradually, over something like a three- to five-year period, which means that the rate of growth should be reduced by about 1 to 1.5 percentage points a year.

The Fed has consistently stated its targets in terms of a range of growth rates. For example, its initial target for M1 for 1983 was a growth rate of 4 to 8 percent from the fourth quarter of 1982 to the fourth quarter of 1983. That method of stating targets is seriously defective. It provides a widening cone of limits on the absolute money supply as the year proceeds and fosters a shift in base from year to year, thereby frustrating accountability over long periods. This is indeed what happened. In July 1983, Chairman Volker announced a new target of 5 to 9 percent for the second quarter of 1983 to the second quarter of 1984 but from the second quarter 1983 base, which is 3 percent (6 percent at an annual rate) above the top of the earlier range.

A better way to state the targets is in terms of a central target for the absolute money supply plus or minus a band of, say, 1.5 percent on either side—about the range the Fed has specified for annual growth rates.

Figure 2.2 exemplifies monetary targets stated in this way for a five-year period. The actual values of M1 available in mid-1983 are also plotted on the chart. The United States is heading either for a renewed upsurge of inflation or for a sharp monetary—and therefore probably economic—contraction.
Procedures for Hitting the Target

There is widespread agreement both inside and outside the Federal Reserve System that current procedures and reserve regulations make accurate control of monetary growth over short periods difficult or impossible. These procedures and regulations do not explain such long-sustained departures from the targets as the monetary explosions from April 1980 to April 1981 or July 1982 to July 1983 or the monetary retardations from April 1981 to October 1981 or January 1982 to July 1982. However, they do explain the wide volatility in monetary growth from week to week and month to month, which introduces undesirable uncertainty into the economy and financial markets and reduces Fed accountability for not hitting its targets.

There is also widespread agreement about the changes in procedures and regulations that would enable the Fed to come very much closer to hitting its targets over fairly short periods. The most important such change is the replacement of lagged reserve accounting, introduced in 1968, by contemporaneous reserve accounting comparable to that prevailing from 1914 to 1968. The obstacle to controlling monetary growth posed by lagged reserve accounting has been recognized since 1970 at the latest. Unfortunately, the Fed did not act until 1982, when it finally decided to replace lagged by contemporary reserve requirements. However, it has delayed implementation until February 1984—the longest delay in implementing a changed regulation in the history of the Fed. There was no insuperable technical obstacle to implementing the change more promptly.
However, given the Fed’s past resistance to change, it cannot be taken for granted that implementation of contemporary reserves will not be further delayed, or even occur.

The other major procedural changes needed are:

1. Selection by the Fed of a single monetary target to end the Fed’s juggling between targets;

2. Imposition of the same percentage reserve requirements on all deposit components of the selected target;

3. The use of total rather than non-borrowed reserves as the short-term operating instrument;

4. Linking of the discount rate to a market rate and making it a penalty rate (unfortunately, neither this change nor the preceding is feasible for technical reasons under lagged reserve accounting and hence must await the implementation of contemporaneous reserve accounting);

5. Reduction of the churning in which the Fed engages in the course of its so-called defensive open-market operations.\(^{18}\)

Even without most of these changes, it would be possible for the Fed to put into effect almost instantaneously a policy that would provide a far stabler monetary environment than we have at present, even though it would by no means be ideal. The obstacle is not feasibility but bureaucratic inertia and the preservation of bureaucratic power and status.

A simple example will illustrate. Let the Fed continue to state targets for M1 growth. Let it estimate the change in its total holdings of U.S. government securities that would be required in the next six months, say, to produce the targeted growth in M1. Divide that amount by 26. Let the Fed purchase the resulting amount every week on the open market, in addition to any amount needed to replace maturing securities, and make no other purchases or sales. Finally, let it announce this schedule of purchases in advance and in full detail and stick to it.

Such a policy would assure control over the monetary aggregates, not from day to day, but over the longer period that the Fed insists is all that matters. It would enable the market to know precisely what the Fed would do and adjust its own actions accordingly. It would end the weekly guessing game that currently follows each Friday’s release of figures on the money supply. The financial markets have certainly demonstrated that they have ample flexibility to handle whatever day-to-day or seasonal adjustments might be needed. It is hard to envisage any significant adverse effects from such a policy.

A few numbers will show how much difference such a policy would make to the Fed’s open-market activities. In 1982, it added an average of $176 million a week to its total holdings of government securities—an unusually high amount. In the process of acquiring $176 million, it purchased each week an average of $13 billion of securities and sold nearly as much. About half of these transactions were on behalf of foreign central banks. But that still leaves roughly $40 of purchases or $80 of transactions for every one dollar added to its portfolio—a degree of churning of a customer’s account that would send a private stockbroker to jail, or at least to limbo.
Increased predictability, reduced churning, the loss of inscrutability—these are at the same time the major reasons for making so drastic a change and the major obstacle to its achievement. It would simply upset too many comfortable dovecotes.

The Framework of Monetary Policy

The chief problem in discussing the framework of monetary policy is to set limits. The subject is old, yet immediately pertinent; numerous proposals have been made, and few, however ancient, do not have contemporary proponents. In view of my own belief that the important desiderata of structural reform are to reduce the variability of monetary growth, to limit the discretion of the monetary authorities, and to provide a stable monetary framework, I shall limit myself to proposals directed at those objectives, proceeding from the least to the most radical.

Imposing a Monetary Rule on the Fed

I have long argued that a major improvement in monetary policy could be achieved without any significant change in monetary institutions simply by imposing a monetary rule on the Fed. From an economic point of view, it would be desirable to state the rule in terms of a monetary aggregate such as M1 that has a close and consistent relation to subsequent changes in national income. However, recent years have demonstrated that the Fed has been unable or unwilling to achieve such a target, even when it sets it itself, and that it has been able to plead inability and thereby avoid accountability. Accordingly, I have reluctantly decided that it is preferable to state the rule in terms of a magnitude that has a somewhat less close relation to national income but that unquestionably can be controlled within very narrow limits within very brief time periods, namely, the Fed’s own non-interest-bearing obligations, the monetary base.

In *Free to Choose*, my wife, Rose, and I proposed a specific form of rule as a constitutional amendment:

*Congress shall have the power to authorize non-interest-bearing obligations of the government in the form of currency or book entries, provided that the total dollar amount outstanding increases by no more than 5 percent per year and no less than 3 percent. It might be desirable to include a provision that two-thirds of each House of Congress, or some similar qualified majority, can waive the requirement in case of a declaration of war, the suspension to terminate annually unless renewed.*

A constitutional amendment would be the most effective way to establish confidence in the stability of the rule. However, it is clearly not the only way to impose the rule. Congress could equally well legislate it, and, indeed, proposals for a legislated monetary rule have been introduced in Congress.

This proposal has the merit that it minimizes the extent of institutional change. However, that is also its chief shortcoming. So long as the current institutional arrangements remain in being, strong pressure will be brought to bear to use them in ways that would avoid or evade the rule. Moreover, as a political matter, a constitutional amendment is unlikely to attract support sufficient for passage except under circumstances of deep and widespread dissatisfaction with
monetary arrangements. Since such circumstances would also permit more far-reaching and fundamental changes, why settle for a half-measure?

I remain persuaded that a monetary rule that leads to a predictable long-run path of a specified monetary aggregate is a highly desirable goal—superior either to discretionary control of the quantity of money by a set of monetary authorities or to a commodity standard. However, I am no longer so optimistic as I once was that it can be effected by either persuading the monetary authorities to follow it or legislating its adoption. Congressional attempts in the past decade to push the Fed in that direction have repeatedly failed. The Fed has rhetorically accepted monetary targets but never a firm monetary rule. Moreover, the Fed has not been willing even to match its performance to a rhetorical acceptance of monetary targets. All this suggests that a change in our monetary institutions is required in order to make such a rule effective.

An International Monetary Rule

Some economists, in particular Ronald McKinnon, have accepted the case for a monetary rule but have argued that if applied on a national basis, it would be rendered largely ineffective by substitution of other market currencies for the one being controlled by the rule. Hence they propose the adoption of a rule by a group of countries with respect to an aggregate of their money supplies, which implies, of course, some agreement on the exchange rates at which the monies will be combined. McKinnon has suggested that Japan, the United States, and Germany should adopt such a rule for a total including the yen, the dollar, and the mark.

This proposal has received considerable attention, particularly with respect to the substantive contention that even under floating exchange rates currency substitution renders control of the U.S. money supply “increasingly inefficient for … stabilizing American income and prices.”\textsuperscript{20} The bulk of the evidence does not support McKinnon’s contention.\textsuperscript{21} Rather, it suggests that substitution of other currencies for the dollar is a trivial impediment to the effectiveness of a monetary rule for the dollar alone.

The economic objections to the proposal are dwarfed by the political objections. A verbal agreement is possible, but a credible and enforceable one, next to impossible.\textsuperscript{22} But even if it were, the proposal involves giving great and essentially discretionary powers to an international body independent of any political control by citizens of each member-country short of withdrawal from the agreement. As I indicate below, I regard the independence in a democracy of a national central bank as highly objectionable on political grounds. The objection is vastly stronger to an independent world or tri-country central bank.

Separating Regulatory from Monetary Functions

A modest institutional reform that promises considerable benefits is to separate the regulatory from the monetary functions of the Fed. Currently, regulatory functions absorb most of the attention of the Fed. Moreover, they obscure accountability for monetary control by confusing the two very separate and to some extent inconsistent functions.
As has recently been proposed in a study of the Federal Deposit Insurance Corporation (FDIC), the Fed should be stripped of its regulatory functions, which would be combined with the largely overlapping functions of the FDIC, the Federal Savings and Loan Insurance Corporation (FSLIC), and the comptroller of the currency. Such a combined agency should have no monetary powers. It also might well include the operating functions of the Federal Reserve Banks—the monitoring of reserve requirements, issuance of currency, clearing of checks, reporting of data, and so forth.\textsuperscript{23}

A separate monetary control agency could be a very small body, charged solely with determining the total quantity of high-powered money through open-market operations. Its function would be clear, highly visible, and subject to effective accountability.

\textit{Ending the Independence of the Fed}

An approach that need involve relatively little institutional change—although it is far more drastic than the preceding—and that could be implemented by legislation would be to end the independence of the Fed by converting it into a bureau of the Treasury Department. That would end the present division of responsibilities for monetary and fiscal policy that leads to the spectacle of chairmen of the Fed blaming all the nation’s ills on the defects of fiscal policy and secretaries of the Treasury blaming them on the defects of monetary policy—a phenomenon that has prevailed for decades. There would be a single locus of authority that could be held responsible.

The immediate objection that arises is that it would make monetary policy a plaything of politics. My own examination of monetary history indicates that this judgment is correct, but that it is an argument for, not against, eliminating the central bank’s independence.

I examined this issue at length in an article published more than two decades ago entitled “Should There Be an Independent Monetary Authority?”\textsuperscript{24} I concluded that it is...highly dubious that the United States, or for that matter any other country, has in practice ever had an independent central bank in [the] fullest sense of the term ... To judge by experience, even those central banks that have been nominally independent in the fullest sense of the term have in fact been closely linked to the executive authority.

But of course this does not dispose of the matter. The ideal is seldom fully realized. Suppose we could have an independent central bank in the sense of a coordinate constitutionally established, separate organization. Would it be desirable to do so? I think not, for both political and economic reasons.

The political objections are perhaps more obvious than the economic ones. Is it really tolerable in a democracy to have so much power concentrated in a body free from any kind of direct, effective political control? A “liberal” often characterizes his position as involving belief in the rule of law rather than of men. It is hard to reconcile such a view with the approval of an independent central bank in any meaningful way. True, it is impossible to dispense fully with the rule of men. No law can be specified so precisely as to avoid problems of interpretation or to cover explicitly every possible case. But the kind of limited discretion left by even the best of laws in the hands of those administering
them is a far cry indeed from the kind of far-reaching powers that the laws establishing central banks generally place in the hands of a small number of men.

One [economic] defect of an independent central bank … is that it almost inevitably involves dispersal of responsibility …

Another defect … is the extent to which policy is … made highly dependent on personalities …

A third technical defect is that an independent central bank will almost inevitably give undue emphasis to the point of view of bankers …

The three defects I have outlined constitute a strong technical argument against an independent central bank. Combined with the political argument, the case against a fully independent central bank is strong indeed.25

The experience of the past two decades has led me to alter my views in one respect only—about the importance of personalities. They have on occasion made a great deal of difference, but additional experience and study has impressed me with the continuity of Fed policy, despite the wide differences in the personalities and backgrounds of the persons supposedly in charge.

For the rest, experience has reinforced my views. Anna Schwartz and I pointed out in Monetary History that subservience to congressional pressure in 1930 and 1931 would have prevented the disastrous monetary policy followed by the Fed. That is equally true for the past fifteen years. The relevant committees of Congress have generally, though by no means invariably, urged policies on the Fed that would have produced a stabler rate of monetary growth and much less inflation. Excessively rapid and volatile monetary growth from, say, 1971 to 1979 was not the result of political pressure—certainly not from Congress, although in some of these years there clearly was pressure for more rapid growth from the administration. Nonetheless, no political pressures would have prevented the Fed from increasing M1 over this period at, say, an average annual rate of 5 percent—the rate of increase during the prior eight years—in instead of 6.7 percent.

Subordinating the Fed to the Treasury is by no means ideal. Yet it would be a great improvement over the existing situation, even with no other changes.

**A Gold Standard**

Superficially, there appears to be widespread support for a “gold standard.” However, as the report of the Gold Commission demonstrated, the apparent consensus disappears when the question is what kind of gold standard.26 Some who refer to themselves as proponents of a gold standard simply want the Fed to use the price of gold as a guide to increasing or decreasing the growth rate of the money supply without buying or selling gold and without committing itself to keeping the price of gold within any specified limits. Others want to add a commitment by the Fed to specific numerical limits on the price of gold. Still others want to fix dollar prices at which the Fed—or the Treasury—will buy and sell gold, generally with the proviso that other major countries agree to do the same in terms of their own currencies. Finally, a small minority wants a “real” gold standard in which the Fed and the Treasury would cease issuing any non-interest-bearing obligations other than, perhaps, warehouse certificates for specified physical
amounts of gold, and in which gold coins or warehouse certificates, or their equivalent, would be the circulating medium.

For reasons that I have spelled out elsewhere, I regard only the last—a real gold standard—as constituting an improvement rather than a deterioration in our monetary arrangements. And that alternative, which is by no means ideal, has minuscule political support.²⁷

**Competitive Issue of Money**

Increasing interest has been expressed in recent years in proposals to replace governmental issuance of money and control of its quality by private market arrangements. One set of proposals would end the government monopoly on the issuance of currency and permit the competitive issue of currency. Another would eliminate entirely any issuance of money by government and, instead, restrict the role of government to defining a monetary unit.

*Choice in Currency and a Tabular Standard.* This set of proposals derives largely from a pamphlet by F. A. Hayek entitled *Choice in Currency: A Way to Stop Inflation.*²⁸ Hayek proposed that all special privileges (such as “legal tender” quality) attached to government-issued currency be removed, and that financial institutions be permitted to issue currency or deposit obligations on whatever terms were mutually acceptable to the issuer and the holder of the liabilities. He envisaged a system in which institutions would in fact issue obligations expressed in terms of purchasing power either of specific commodities, such as gold or silver, or of commodities in general through linkage to a price index. In his opinion, constant-purchasing-power moneys would come to dominate the market and largely replace both obligations denominated in dollars or pounds or other similar units and in specific commodities.

The idea of a currency unit linked to a price index is an ancient one—proposed in the nineteenth century by W. Stanley Jevons and Alfred Marshall, who named it a “tabular” standard—and repeatedly rediscovered.²⁹ It is part of the theoretically highly attractive idea of widespread indexation. Experience, however, has demonstrated that the theoretical attractiveness of the idea is not matched by practice. Nothing has prevented the widespread use of indexation in one form or another—indeed, the voluntary adoption of the equivalent of a tabular standard—in the United States, Britain, or other capitalist countries. Yet indexation has been extensive only when inflation has been extremely high and variable, as in some South American countries and Israel. Indexing, though frequent, is of minor importance except in labor contracts, and even in that area, it is far from dominant.

I approve of Professor Hayek’s proposal to remove restrictions on the issuance of private moneys to compete with government moneys. But I do not share his belief about the outcome. Private moneys now exist—traveler’s and cashier’s checks, bank deposits, money orders, and various forms of bank drafts and negotiable instruments. But these are almost all claims on a specified number of units of government currency (of dollars or pounds or francs or marks). Currently, they are subject to government regulation and control. But even if such regulations and controls were entirely eliminated, the advantage of a single national currency unit buttressed by long tradition will, I suspect, serve to prevent any other type of private currency unit from seriously
challenging the dominant government currency, and this despite the high degree of monetary variability many countries have experienced over recent decades.

The recent explosion in financial futures markets offers a possible new road to the achievement, through private market actions, of the equivalent of a tabular standard. This possibility is highly speculative—little more than a gleam in one economist’s eye. It involves the establishment of futures markets in one or more price indexes—strictly parallel to the markets that have developed in stock price indexes. Such markets, if active and covering a considerable range of future dates, would provide a relatively costless means of hedging long-term contracts against risks of changes in the price level. A combination of an orthodox dollar contract plus a properly timed set of futures in a price level would be the precise equivalent of a tabular standard, but would have the advantage that any one party to a contract, with the help of speculators and other hedgers in the futures market, could have the benefit of a tabular standard without the agreement of the other party or parties.

Recent changes in banking regulations have opened still another route to a partial tabular standard on a substantial scale. The Federal Home Loan Bank has finally authorized federally chartered savings and loan associations to offer price-level-adjusted mortgage (PLAM) loans. Concurrently, the restrictions on the interest rate that can be paid on deposits by a wide range of financial institutions have been eased and removed entirely for deposits of longer maturities.

This would permit financial institutions simultaneously to lend and borrow on a price-level-adjusted basis: to lend on a PLAM and borrow on a price-level-adjusted deposit (PLAD), both at an interest rate specified in real rather than nominal terms. By matching PLAM loans against PLAD deposits, a bank would be fully hedged against changes in inflation, covering its costs by the difference between the interest rate it charges and pays. Similarly, both borrowers and lenders would be safeguarded against changes in inflation with respect to a particular liability and asset.

As yet, I know of no financial institutions that have proceeded along these lines. I conjecture that no major development will occur unless and until inflation once again accelerates. When and if that occurs, PLAMs and PLADs may well become household words and not simply mysterious acronyms.30

Eliminating Government Money. A number of economic theorists who have been re-examining the foundations of monetary systems have recently offered a new set of proposals. The basic idea is that the government simply define a monetary unit—for example, the value of a specified basket of goods—and play no other role in the monetary system. Private institutions would issue claims denominated in the officially defined unit (as, in futures markets, they now issue promises to deliver wheat or gold or silver specified in officially defined units). The role of government would be restricted to enforcing such contracts, preventing fraud, and the like.31

The set of ideas underlying these proposals are intellectually exciting and will contribute to a fuller understanding of the role and value of money. But, as yet, they seem too radical, too unsupported by evidence, to be regarded as a practical proposal for institutional reform. As Robert Hall, one of the main contributors to these developments, states, “All of these proposals
share a basic microeconomic goal—full deregulation of transaction services and intermediation [borrowing from some and lending to others]. None of them would rely on the concept of a money stock or its stability relative to total income. Whether their macroeconomic performance would equal that of a simple money growth rule is still a matter of controversy."

**Freezing High-Powered Money**

The final proposal combines features from most of the preceding. It is radical and far-reaching, yet simple.

The proposal is that, after a transition period, the quantity of high-powered money—non-interest-bearing obligations of the U.S. government—be frozen at a fixed amount.\(^{33}\) These non-interest-bearing obligations now take two forms: currency and deposits at the Federal Reserve System. The simplest way to envisage the change is to suppose that Federal Reserve deposit liabilities were replaced dollar for dollar by currency notes, which were turned over to the owners of those deposits. Thereafter, the government’s monetary role would be limited to keeping the amount constant by replacing worn-out currency. In effect, a monetary rule of zero growth in high-powered money would be adopted. (In practice, it would not be necessary to replace deposits at the Federal Reserve with currency; they could be retained as book entries, so long as the total of such book entries plus currency notes was kept constant.)

As noted above, the Fed currently has two roles: determining the quantity of money; and regulating banking institutions and providing such services as collateralized loans, check-clearing, wire transfers, and the like. Under this proposal its first role would be eliminated. In this sense, the proposal would end the independence of the Federal Reserve System. Its second role could, if desired, be continued, preferably by combining it with the similar roles of the FDIC, the FSLIC, and the comptroller of the currency, as suggested earlier.

This proposal would be consistent with, indeed require, the continued existence of private institutions issuing claims to government currency. These could be regulated as now, with the whole paraphernalia of required reserves, bank examinations, limitations on lending, and the like. However, they could also be freed from all or most such regulations. In particular, the need for reserve requirements to enable the Fed to control the quantity of money would disappear.

Reserve requirements might still be desirable for a different though related reason. The new monetary economists argue that only the existence of such government regulations as reserve requirements and prohibition of the private issuance of currency explains the relatively stable demand for high-powered money. In the absence of such regulations, they contend, non-interest-bearing money would be completely dominated by interest-bearing assets, or, at the very least, the demand for such money would be rendered highly unstable.

I am far from persuaded by this contention. It supposes a closer approach to a frictionless world with minimal transaction costs than seems to me a useful approximation to the actual world.\(^{34}\) Nonetheless, it is arguable that the elimination of reserve requirements would introduce an unpredictable and erratic element into the demand for high-powered money. For that reason, although personally I would favor the deregulation of financial institutions, thereby incorporating
a major element of Hayek’s proposed competitive financial system, it would seem prudent to proceed in stages: first, freeze high-powered money; then, after a period, eliminate reserve requirements and other remaining regulations, including the prohibition on the issuance of hand-to-hand currency by private institutions.

Why zero growth? Zero has a special appeal on political grounds that is not shared by any other number. If 3 percent, why not 4 percent? It is hard, as it were, to go to the political barricades to defend 3 rather than 4, or 4 rather than 5. But zero is—as a psychological matter—qualitatively different. It is what has come to be called a Schelling point—a natural point at which people tend to agree, like “splitting the difference” in a dispute over a monetary sum. Moreover, by removing any power to create money it eliminates institutional arrangements lending themselves to discretionary changes in monetary growth.

Would zero growth in high-powered money be consistent with a healthy economy? In the hypothetical long-long-run stationary economy, when the whole economy had become adjusted to the situation, and population, real output, and so on were all stationary, zero growth in high-powered money would imply zero growth in other monetary aggregates and mean stable velocities for the aggregates. In consequence, the price level would be stable. In a somewhat less than stationary state in which output was rising, if financial innovations kept pace, the money multiplier would tend to rise at the same rate as output and again prices would be stable. If financial innovations ceased but total output continued to rise, prices would decline. If output rose at about 3 percent per year, prices would tend to fall at 3 percent per year. So long as that was known and relatively stable, all contracts could be adjusted to it, and it would cause no problems and indeed would have some advantages. 

However, any such outcome is many decades away. The more interesting and important question is not the final stationary-state result but the intermediate dynamic process.

Once the policy was in effect, the actual behavior of nominal income and the price level would depend on what happened to a monetary aggregate like M1 relative to high-powered money and what happened to nominal income relative to M1—that is, on the behavior of the money multiplier (the ratio of M1 to high-powered money) and on the income velocity of M1 (the ratio of nominal income to M1).

Given a loosening of the financial structure through continued deregulation, there would be every reason to expect a continued flow of innovations raising the money multiplier. This process has in fact occurred throughout the past several centuries. For example, in the century from 1870 to 1970, the ratio of the quantity of money, as defined by Anna Schwartz and me in Monetary History, to high-powered money rose at the average rate of 1 percent per year. In the post–World War II period, the velocity of M1 has risen at about 3 percent per year, and at a relatively steady rate. This trend cannot of course continue indefinitely. Above, in specifying a desirable target for the Fed, I estimated the rise in velocity would slow to about 1 or 2 percent per year. However, a complete end to the rapid trend in velocity is not in sight.

There is no way to make precise numerical estimates, but there is every reason to anticipate that for decades after the introduction of a freeze on high-powered money, both the money multiplier
and velocity would tend to rise at rates in the range of historical experience. Under these circumstances, a zero rate of growth of high-powered money would imply roughly stable prices, though ultimately, perhaps, slightly declining prices.

What of the transition? Over the three years from 1979 to 1982, high-powered money grew an average of 7.0 percent a year. It would be desirable to bring that rate to zero gradually. As for M1 growth, about a five-year period seems appropriate—or a transition that reduces the rate of growth of high-powered money by about 1.5 percentage points a year. The only other transitional problem would be to phase out the Fed’s powers to create and destroy high-powered money by open-market operations and discounting. Neither transition offers any special problem. The Fed, or its successor agency, could still use part of the existing stock of high-powered money for similar purposes, particularly for lender-of-last-resort purposes, if that function were retained.

The great advantage of this proposal is that it would end the arbitrary power of the Federal Reserve System to determine the quantity of money and would do so without establishing any comparable locus of power and without introducing any major disturbances into other existing economic and financial institutions.

I have found that few things are harder even for knowledgeable non-experts to accept than the proposition that twelve (or nineteen) people sitting around a table in Washington, subject to neither election nor dismissal nor close administrative or political control, have the power to determine the quantity of money—to permit a reduction by one-third during the Great Depression or a near doubling from 1970 to 1980. That power is too important, too pervasive, to be exercised by a few people, however public-spirited, if there is any feasible alternative.

There is no need for such arbitrary power. In the system I have just described, the total quantity of any monetary aggregate would be determined by the market interactions of many financial institutions and millions of holders of monetary assets. It would be limited by the constant quantity of high-powered money available as ultimate reserves. The ratios of various aggregates to high-powered money would doubtless change from time to time, but in the absence of rigid government controls—such as those exemplified by Regulation Q, fortunately being phased out—the ratios would change gradually and only as financial innovations or changes in business and industry altered the proportions in which the public chose to hold various monetary assets. No small number of individuals would be in a position to introduce major changes in the ratios or in the rates of growth of various monetary aggregates—to move, for example, from a 3 percent per year rate of growth in M1 for one six-month period (January to July 1982) to a 13 percent rate of growth for the next six months (July 1982 to January 1983).

**Conclusion**

Major institutional change occurs only at times of crisis. For the rest, the tyranny of the status quo limits changes in institutions to marginal tinkering—we muddle through. It took the Great Depression to produce the FDIC, the most important structural change in our monetary institutions since at least 1914, when the Federal Reserve System began operations, and to shift power over monetary policy from the Federal Reserve Banks, especially that in New York, to the board in Washington. Since then, our monetary institutions have been remarkably stable. It took
the severe inflation of the 1970s and accompanying double-digit interest rates—combined with the enforcement of Regulation Q—to produce money market mutual funds and thereby force a considerable measure of deregulation of banking.

Nonetheless, it is worth discussing radical changes, not in the expectation that they will be adopted promptly but for two other reasons. One is to construct an ideal goal, so that incremental changes can be judged by whether they move the institutional structure toward or away from that ideal.

The other reason is very different. It is so that if a crisis requiring or facilitating radical change does arise, alternatives will be available that have been carefully developed and fully explored. An excellent example is provided by international monetary arrangements. For decades, economists had been exploring alternatives to the system of fixed exchange rates, in particular, floating exchange rates among national currencies. The practical men of affairs derided proposals for floating rates as unrealistic, impractical, ivory tower. Yet when crisis came, when the Bretton Woods fixed-rate system had to be scrapped, the theorists’ impractical proposal became highly practical and formed the basis for the new system of international monetary arrangements.

Needless to say, I hope that no crises will occur that will necessitate a drastic change in domestic monetary institutions. The most likely such crisis is continued monetary instability, a return to a roller coaster of inflation about an upward trend, with inflation accelerating to levels of 20, 30, or more percent per year. That would shake the social and political framework of the nation and would produce results none of us would like to witness. Yet, it would be burying one’s head in the sand to fail to recognize that such a development is a real possibility. It has occurred elsewhere, and it could occur here. If it does, the best way to cut it short, to minimize the harm it would do, is to be ready not with Band-Aids but with a real cure for the basic illness.

As of now, I believe the best real cure would be the reform outlined in the preceding section: abolish the money-creating powers of the Federal Reserve, freeze the quantity of high-powered money, and deregulate the financial system.

The less radical changes in policy and procedures suggested in the section on tactics seem to me to offer the best chance of avoiding a crisis. They call for the Fed to change its procedures so as to enable it to control more accurately a chosen monetary aggregate; to choose a single monetary aggregate to control; and to specify in advance, and adhere to, a five-year path for the growth of that aggregate that would bring it to a rate consistent with a healthy noninflationary economy. Figure 2.2 shows an illustrative path.

These tactical changes are feasible technically. However, I am not optimistic that they will be adopted. The obstacle is political. As with any bureaucratic organization, it is not in the self-interest of the Fed to adopt policies that would render it accountable. The Fed has persistently avoided doing so over a long period. None of the tactics that I have proposed is new. The proposed changes would have made just as much sense five or ten years ago—indeed, if adopted then, the inflation and volatility of the past ten years would never have occurred. They have had
the support of a large fraction of monetary experts outside the Fed. The Fed has resisted them for bureaucratic and political, not technical reasons. And resistance has been in the Fed’s interest.

By keeping monetary policy an arcane subject that must be entrusted to “experts” and kept out of politics, incapable of being judged by non-experts, the Fed has been able to maintain the high public reputation of which I spoke at the outset of this paper, despite its poor record of performance.

One chairman after another, in testimony to Congress, has emphasized the mystery and difficulty of the Fed’s task and the need for discretion, judgment, and the balancing of many considerations. Each has stressed how well the Fed has done and proclaimed its dedication to pursuing a noninflationary policy and has attributed any undesirable outcome to forces outside the Fed’s control or to deficiencies in other components of government policy—particularly fiscal policy. Even the few excerpts from the testimony of the four most recent chairmen of the Fed that are given in the appendix to this essay suffice to document their pervasive concern with avoiding accountability—a concern with which it is easy to sympathize in view of the purely coincidental relation between their announced intentions and the actual outcome.

Clearly the problem is not the person who happens to be chairman, but the system.

Appendix: Excerpts from Congressional Testimony of Recent Federal Reserve Chairmen

WILLIAM McCHESEY MARTIN, JR.

“The flexible monetary policy that has been in effect now for a full decade … is one of leaning against the winds of inflation and deflation alike—and with equal vigor” (Joint Economic Committee, March 7, 1961).

“Monetary policy, which had carried the brunt of the battle to restrain inflationary pressures in 1966, moved promptly toward a position of ease last fall, as soon as it became evident that inflationary pressures were coming under control” (House Ways and Means Committee, September 14, 1967).

“Inflation is no longer just a threat—it is a reality … Vigorous fiscal action … offers the best hope” (House Ways and Means Committee, November 29, 1967).

“I am optimistic about the prospects for gradual success of the stabilization policies now in force” (Joint Economic Committee, February 26, 1969).

[INFLATION DURING THE PRECEDING TWO YEARS. 4.0 PERCENT; DURING THE NEXT TWO YEARS. 5.7 PERCENT.]

ARTHUR BURNS
“The appropriate course for monetary policy … is to tread cautiously the narrow and slippery path that lies between too much restraint and too much ease … success in our efforts to regain full employment without inflation will depend principally on the conduct of monetary and fiscal policies” (Joint Economic Committee, July 23, 1970).

“While a high rate of growth of the narrowly defined money supply may well be appropriate for brief periods, rates of increase above the 5 to 6 percent range—if continued for a long period of time—have typically intensified inflationary pressures … the Federal Reserve will not become the architects of a new wave of inflation” (Joint Economic Committee, February 19, 1971).

[M1 GROWTH DURING THE NEXT TWO YEARS, 8.1 PERCENT; DURING THE NEXT SEVEN YEARS, 6.4 PERCENT; INFLATION DURING THE NEXT TWO YEARS (UNDER PRICE CONTROLS), 3.5 PERCENT; DURING THE NEXT SEVEN YEARS, 6.8 PERCENT.]

G. WILLIAM MILLER

“The Federal Reserve continued to pursue the objective of fostering financial conditions consistent with expansion of economic activity and moderation of inflationary pressures...One of the great disappointments … has been the lack of progress in reducing the rate of inflation” (House Committee on Banking, Finance, and Urban Affairs, March 9, 1978).

“I must emphasize, however, that the solution to the Nation’s problems of high unemployment and rapid inflation does not rest with monetary policy alone … Clearly other tools of public policy must be marshaled in the effort to improve economic performance” (Senate Committee on the Budget, March 15, 1978).

“Monetary policy has been—and will continue to be—designed to restrain inflation. But monetary policy cannot do the job alone” (House Banking Committee, July 28, 1978).

“You can be assured that monetary policy will do its part in achieving that objective” (House Banking Committee, November 16, 1978).

[M1 GROWTH DURING MILLER’S TERM IN OFFICE (MARCH 1978 TO AUGUST 1979), 8.6 PERCENT PER YEAR; INFLATION, 11.1 PERCENT.]

PAUL A. VOLCKER

“The suggestion has been made that … [we set] out a specific target path for future growth in the money stock over a number of years … However, experience shows that many forces can affect the financial requirements of the economy at any time …

“For all these reasons—and despite the underlying element of truth in the broad proposition relating inflation to excessive monetary growth—I think that it would be a mistake to attempt to set rigid and narrow long-range monetary targets. Further, a legislative approach … would raise the basic question as to whether the Congress would want to inject itself so directly into these judgments, filled with technical complexity and doctrinal controversy. It does not seem to be
consistent with the approach … that these decisions should emerge from a dispassionate, professional, deliberative process and be shielded from partisan pressures.

“We are now placing more emphasis on controlling the provision of reserves to the banking system … to keep monetary growth within our established targets” (Subcommittee of House Banking Committee, November 13, 1979).

“We should not rely on monetary policy alone, critical as disciplined monetary policy is, to solve our economic problem” (Joint Economic Committee, October 17, 1979).

“In terms of the broad nature of monetary policy; these considerations translate into a prescription for persistently working toward non-inflationary growth of the money supply” (Joint Economic Committee, February 1, 1980).

[M1 GROWTH TARGET, FOURTH QUARTER TO FOURTH QUARTER: 1979–80, 4 TO 6.5 PERCENT (ACTUAL 7.2 PERCENT); 1980–81, TARGET 6 TO 8.5 PERCENT (ACTUAL 5.1 PERCENT); 1981–82, TARGET 2.5 TO 5.5 PERCENT (ACTUAL 8.5 PERCENT). TIMES AT BAT, 3; HITS, 0; RUNS, 0; ERRORS, 3.]

“Our objective is easy to state in principle—to maintain progress toward price stability while providing the money and liquidity necessary to support economic growth. In practice, achieving the appropriate balance is difficult—and a full measure of success cannot be achieved by the tools of monetary policy alone.”

“I appreciate the complexity—for the Federal Reserve and for those observing our operations—of weighing performance with respect to a number of monetary and credit targets, of taking account of institutional change, and of assessing the possibility of shifts in relationships established earlier.”

“That objective [price and financial stability] … will require that we avoid excessive growth of money and credit” (Senate Committee on Banking, Housing, and Urban Affairs, February 16, 1983).

[AVERAGE GROWTH IN M1: JULY 1982 TO JUNE 1983, 13.9 PERCENT PER YEAR.]

Notes

1 Robert E. Weintraub has suggested that learning the name of the president is of somewhat more value. See his “Congressional Supervision of Monetary Policy,” Journal of Monetary Economics 4 (April 1978): 341–62.

2 The fraction of the inflation that occurred after the end of the war is hard to estimate because wartime and early postwar price controls distort the reported figures. According to the official estimates of the price index implicit in deflating the GNP, nearly 60 percent of the total wartime inflation occurred after the end of the war; according to estimates adjusted for the effects of price controls constructed by Anna Schwartz and me, slightly over 40 percent. Both estimates exceed the one-third of the World War I inflation that came after the end of the war. (See Milton Friedman and Anna J. Schwartz, Monetary Trends in the United States and the United Kingdom [Chicago: University of Chicago Press, 1982], p. 107.)
The rates of growth of money in the successive five-year periods 1950–1955, 1955–1960, and 1960–1965 were 3.2, 1.0, and 2.9 percent for M1; 4.0, 3.0, and 6.4 percent for the monetary aggregate we used in Monetary History and Monetary Trends, equivalent to the former Federal Reserve M2; and 5.2, 4.6, and 8.4 percent for the current Federal Reserve M2 (our M4 in our Monetary Statistics of the United States). It is interesting to compare these numbers with those in the earlier periods. The rates of growth of the monetary aggregate we used in Monetary History from 1918–1920, 1920–1922, and 1922–1927 were +14.1, −1.6, and +5.8 percent. The periods preceding the “high tide” were shorter and more extreme, but the earlier high-tide period itself had roughly the same growth rate as the later one.


Lagged reserve requirements referred to a procedure that was adopted in 1968 under which banks calculate, on the basis of their deposits two weeks earlier, the reserves they are required to hold. Its effect was to convert the technique the Fed now proposed to use (controlling non-borrowed reserves) into the equivalent of an earlier and discredited guide, free reserves.


Christopher A. Sims questions this proposition on the basis of evidence on the variability of money and industrial production over two decades and in five countries. However, the evidence he presents is seriously flawed. For the United States, his monetary series consists of the average of daily figures, for the other countries of figures for one day a month. As I have demonstrated elsewhere, the standard deviation of monthly growth rates (or annual averages of monthly growth rates) is more than twice as large for one-day figures as for averages of daily figures. When his estimates are corrected for this bias, the standard deviations are roughly the same for all the countries. I do not know the details of the industrial production indexes he uses and so have no judgment on their comparability among countries. His one comparison for the United States (for 1960–1971 compared with 1971–1982) seems inconsistent with the results in Table 2.2. (See Sims, “Is There a Monetary Business Cycle?” American Economic Review: Papers and Proceedings 73 [May 1983]: 228–33, especially Table 1, p. 231; and M. Friedman, “Monetary Variability: U.S. and Japan,” Journal of Money, Credit, and Banking [August 1983].)

See Milton Friedman, “Monetary Studies of the National Bureau,” in Optimum Quantity of Money and Other Essays, pp. 265–77.


A. J. Schwartz and Michael Bordo reach a similar conclusion on the basis of overlapping yet somewhat different evidence in their forthcoming paper, “The Importance of Stable Money. Theory and Evidence.”


Over the past three decades, M1 velocity has risen about 3 percent a year. Given a long-term rate of real growth of about 3 percent per year, continued velocity growth of 3 percent a year would mean that zero M1 growth would be required for zero inflation. However, part of the velocity growth has been a reaction to rising inflation and interest rates, which have made it more costly to hold cash. Successful disinflation has the opposite effect. Since the third quarter of 1981, M1 velocity has declined (by 6 percent to the second quarter of 1983) rather than risen. In addition, technological improvements in cash management cannot continue indefinitely. It therefore seems safer to suppose that M1 velocity will cease rising as rapidly as in the past, which explains the 1 to 3 estimate in the text. It implicitly allows for about a 1 to 2 percent per year velocity growth.

George Kaufman warned of the problem before lagged reserve accounting was introduced. See my “Monetary Policy,” pp. 110–13, for a detailed discussion of lagged reserve requirements.

For a fuller discussion, see my “Monetary Policy.”


25 Ibid., pp. 180, 184, 186, 188, 190.

26 See Report to the Congress of the Commission on the Role of Gold in the Domestic and International Monetary Systems (March 1982), vols. 1 and 2.


29 For an interesting recent rediscovery, see the article by R. W. R. White, governor of the Reserve Bank of New Zealand, on a proposed purchasing-power-adjusted money of account that he termed the “Real” (Reserve Bank of New Zealand Bulletin, October 1979, pp. 371–74). This article was followed by a series of five articles in successive monthly issues of the Bulletin dealing with the possible effects of the Real on various aspects of the economy.


33 In deference to tradition, I designate currency and deposits at the Federal Reserve as “obligations,” but they are not in any meaningful sense obligations of the U.S. government, or, indeed, anyone else. They are simply pure fiat money.

34 The empirical issue is the same as that embedded in the extreme form of the rational expectations hypothesis, which asserts the complete inability, even over short periods, of perceived changes in monetary policy to affect real magnitudes.

35 See my “The Optimum Quantity of Money,” Optimum Quantity of Money and Other Essays, chap. 1.

36 The Open Market Investment Committee, which has the power, consists of the seven members of the Board of Governors plus five of the twelve presidents of Federal Reserve Banks; hence the number twelve. However, all twelve presidents attend the meetings of the committee and engage in the discussions of policy, although only five vote; hence the number nineteen.


38 This and all subsequent quotations of the chairmen are taken from relevant issues of the Federal Reserve Bulletin.


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