The title assigned to this session is misleading, especially with respect to the United States. It gives the impression that monetarism has been tried and that we are engaged in a retrospective evaluation of how it worked in practice. That is very far from the truth for the United States. In October 1979, the Federal Reserve in desperation adopted monetarist rhetoric. It did not then and has not since adopted a monetarist policy. A more appropriate title for my paper might well be “How to Give Monetarism a Bad Name.”

If the question, “Are you now or have you ever been a monetarist?” were put to the seven members of the Federal Reserve Board, not a single one would say yes. As George Kaufman commented many years ago in a paper entitled “A Self-Fulfilling Prophecy,” the Federal Reserve has always opposed the use of monetary targets; it has always claimed that it could not in fact control effectively the quantity of money and it has repeatedly adopted policies that have corresponded to George Kaufman’s title.

A monetarist policy consists of two essential items: first, the acceptance of a monetary aggregate by the monetary authorities as their primary target; second, the adoption of policies directed at producing a stable and predictable rate of growth in that monetary aggregate. This general description covers many variants—ranging from an absolutely fixed monetary growth target such as I have favored to the use of monetary growth as a means of fine-tuning the economy. Similarly, different monetarists have concentrated on different monetary aggregates, varying from the monetary base to M1 to M2 to still broader aggregates, and have had different objectives with respect to the desirable rate of monetary growth. But every variety of monetarist, whatever his specific formula, has regarded relatively stable and relatively predictable growth as an essential feature of a monetarist policy.

In judging how such a policy would work, it is important to note that monetary growth tends in the first instance to affect the rate of growth of nominal income. An increase in the rate of monetary growth tends to produce after a variable interval an increase in the rate of growth of nominal income, and conversely. How the change in nominal income is divided between inflation on the one hand and real output on the other has become an area of considerable contention in the theoretical literature in recent years, especially since the emergence of the rational expectations doctrine and particularly of its more extreme forms. I do not propose to go into that issue here. I shall bypass it by simply stating the empirical generalizations that seem to me to be justified for the United States and similar countries such as Britain and Japan which have been spared a history of volatile and occasionally extremely rapid inflation. For such countries, inflation empirically tends to have a great deal of inertia, to change only slowly and gradually. The result is that a change in the rate of nominal income growth tends to show up first in output and only subsequently in inflation. Inflation tends to depend on the average rate of growth of nominal income—and hence of prior monetary growth—over a considerable period. It is much less affected, though it is affected, by the volatility of monetary growth and hence of
nominal income. As a result, volatility in nominal income growth is reflected primarily in volatility in real output, employment, and so on. As to timing, on the average for the United States, Great Britain, and Japan, a change in monetary growth tends to be followed by a change in the growth of nominal income in the same direction after an interval of six to nine months, though in the past several years the lag has been shorter than that in the United States, and by a change in inflation after an interval of something like a year and a half to two and a half years. These time lags are of long standing. With this background, let me turn to a brief capsule history of monetary policy in the United States in the past few years.

1. History

1.1. From 1960 to October 1979

Monetary restraint, encouraged by President Eisenhower’s willingness to suffer 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 sustained expansion from 1961 to 1966—the postwar “high-tide” of the Federal Reserve System comparable to the 1923–28 period that Anna Schwartz and I designated the “high-tide” of the Federal Reserve System in our Monetary History. As in the 1920s, this proved to be a passing phase, though 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 two decades from 1960 to 1980. 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 inflation peak was higher than the preceding peak; each inflation 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 decade of 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 the 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, the Fed 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 the 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 result was 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 about two to three years up, one year or less down. 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.

1.2. 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. Under pressure at the IMF meeting in Belgrade, Paul Volcker flew back to the U.S. and on October 6, 1979 announced a major change in monetary policy “to support the objective of containing growth in the monetary aggregates … by placing greater emphasis 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 and without changing its regulations. In particular, lagged reserve requirements, which had hindered the achievement of the earlier objectives to a minor extent, proved an extremely serious hindrance for the new objectives.

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 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.

1.3. 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, it made no public announcement. On the contrary, it stated that it had not changed its procedures, but was giving less attention to M1 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 eight months from July 1982 to March 1983, M1 rose at close to 15 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 1979–82 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 for at least the next six months, they were relatively stable and did not rise.

Similarly, on the 1979–82 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 December 1982, or five months after the acceleration in monetary growth—closer to the earlier than to the later pattern.

2. Evaluation

2.1. Inflation

As noted earlier, inflation in the United States tends to be a fairly inertial phenomenon that is affected long after the event by monetary growth. This is clearly shown in Table 2 which shows monetary growth for successive three-year periods beginning in the third quarter of 1973 and inflation in periods two years later, the first two periods being a full three years, the last period being until the first quarter of 1983 or a year and a half.

<table>
<thead>
<tr>
<th>TABLE 2: Monetary Growth and Inflation (All growth rates, percent per year)</th>
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<tbody>
<tr>
<td>Period (Quarter/Year)</td>
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<tr>
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<tr>
<td>3/73 to 3/76</td>
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<tr>
<td>3/76 to 3/79</td>
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<tr>
<td>3/79 to 3/82</td>
</tr>
</tbody>
</table>

Whether measured by the monetary base or by M1, the rate of monetary growth speeded up significantly from the first period to the second period and then fell significantly in the third period. The movements in the consumer price index are much sharper than those in either the monetary base or in M1 both up and down. Partly this is because the consumer price index as it was constructed during this period gave undue weight to housing costs and hence to the interest rate, which was particularly volatile during these years. From this point of view the implicit price deflator is a better measure. The rise in the rate of inflation as shown by the implicit price deflator from the first period to the second is roughly the same as in M1—a 3.2 percentage increase in M1, a 2.8 percentage increase in the rate of growth of the implicit price deflator. On the other hand, the tapering off of inflation is much sharper—a 2.2 percentage point decline in M1, a 3.7 percentage point decrease in the rate of growth of the implicit price deflator. I believe that this difference is in considerable measure to be explained by the far higher volatility of both the monetary base and M1 in the third period than in either of the others. This is a point that I shall return to later. The main point is simply that the recent decline in inflation is to be attributed to the slower average rate of growth in money over the three-year period from the third quarter of 1979 to the third quarter of 1982 than in the prior three-year period.
2.2. Monetary Volatility

Average is one thing, variability is a very different thing. Table 3 measures the volatility of the monetary base and of M1 in the same three-year periods used in Table 2. It measures the volatility of the nominal GNP, of real GNP, and of the implicit price deflator in three-year periods just six months rather than two years later than the periods for money, since changes in money tend to affect nominal income after a lag of about two quarters. The shorter lag between monetary change and nominal income change on the one hand than between monetary change and inflation is a major reason why monetary volatility is so disturbing for real income.

TABLE 3: Variability of Monetary and Economic Growth: Standard Deviations of Quarter-to-Quarter Annualized Rates of Change (continuously compounded)

<table>
<thead>
<tr>
<th>Period (Quarter/Year)</th>
<th>Money Base</th>
<th>M1</th>
<th>Period (Quarter/Year)</th>
<th>Nominal GNP</th>
<th>Real GNP</th>
<th>Implicit Price Deflator</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/73 to 3/76</td>
<td>1.3</td>
<td>1.5</td>
<td>1/74 to 1/77</td>
<td>3.8</td>
<td>5.6</td>
<td>2.7</td>
</tr>
<tr>
<td>3/76 to 3/79</td>
<td>0.9</td>
<td>1.3</td>
<td>1/77 to 1/80</td>
<td>3.7</td>
<td>3.2</td>
<td>1.6</td>
</tr>
<tr>
<td>3/79 to 3/82</td>
<td>2.3</td>
<td>4.7</td>
<td>1/80 to 1/83</td>
<td>5.7</td>
<td>4.8</td>
<td>2.5</td>
</tr>
</tbody>
</table>

After declining somewhat from the first to the second period, monetary volatility rose drastically from the second to the third. The third period is the period of the so-called “monetarist” policy of the Federal Reserve. Nominal GNP shows precisely the same pattern. This is a relationship that Anna Schwartz and I investigated for a period of close to a hundred years in an article published some two decades ago. I have subsequently extended that analysis. It demonstrates that so far as the United States is concerned there is a close relationship between the volatility of money on the one hand and the volatility of nominal income and real income on the other. The results for real GNP in Table 3 may appear to contradict this conclusion but they really do not. Real GNP is more volatile in the third period than in the second, but it is even more volatile in the first. The reason is that the first period reflects the aftermath of the price controls imposed by President Nixon in August 1971. Their release produced a rapid acceleration in inflation which was accompanied by a decline in real income. As a result, there is a negative correlation between the changes in real income and in the implicit price deflator during the three years from the first quarter of 1974 to the first quarter of 1977 while for the other two periods there is a very mild positive correlation. That is why there is higher volatility for both real income and the implicit price deflator in the first period than in either of the others.

The third period shows the increase in volatility from the second that is already recorded in a different way in Table 1.

3. Implications

To return to the question posed for this series of sessions: “What could reasonably be expected from monetarism?” we have to ask ourselves what we could have expected if a monetarist policy had in fact been followed from the third quarter of 1979 to the third quarter of 1982 not only in the sense that a monetary target was being aimed at, but that it was being reasonably effectively
achieved so that the volatility of money would have been very much lower. On the question of whether it would have been feasible for the Fed to have achieved a much steadier rate of growth in the quantity of money, that question has been analyzed exhaustively by myself and others. I believe the general consensus is that it clearly would have been possible had the Fed been willing to make some changes in its operating procedures, notably eliminating lagged reserve requirements.

Suppose then that monetary volatility had been roughly the same in the third period as it was in the second which itself is not an exceptionally high standard. I believe it would be possible for the Fed to do considerably better than either.

In making this hypothetical evaluation one qualification must be introduced. The course of events in 1980 was very much influenced by President Carter’s decision to impose credit controls early that year and the subsequent removal of those controls. In judging the effects of a different monetary policy it would perhaps be best to abstract from that by assuming that no credit controls had been imposed. At the same time it should be kept in mind that so far as their imposition was responsible for much of the volatility in 1980, the blame or credit should go to President Carter and not to the Federal Reserve, though the Federal Reserve System did exacerbate the effects of the credit controls by permitting an excessive decline in the money supply in response to the imposition of the credit controls and an excessive rate of growth in connection with their elimination.

Let us assume therefore that M1 rose at the rate of about 7.1 percent from the third quarter of 1979 to the third quarter of 1980, 6.1 percent from the third quarter of 1980 to the third quarter of 1981, 5.1 percent from the third quarter of 1981 to the third quarter of 1982, averaging precisely the 6.1 percent that it did average over those three years. What would have been the course of events?

First, the recession that in fact terminated in July 1980 would almost surely have lasted longer but would have been considerably milder. Instead of the abnormally short six-month recession that occurred, we might have had a recession somewhat longer than the typical twelve-month recession of the post-war period, let us say about 18 months. The recession would then have continued to about July 1981, ending up perhaps with a level of unemployment and output somewhat lower than was actually reached in mid-1980. But somewhere around the middle of 1981 a revival would have taken place as declining inflation and the steady prospects of monetary growth worked their effect. There then would have occurred an expansion more nearly in line with the kind we have observed in the postwar period lasting something like about three years. We would still be in that expansion. Unemployment would never have risen as high as it did. Output would never have fallen as low. We would not have had the spectacle of an absolute decline in per capita real income and real wages over a period of four or five years. Indeed, real income and wages are lower today than they were ten years ago, an almost unprecedented event in the history of the United States.

The steadier monetary policy would have had a double effect on interest rates. On the one hand, because the economy would have been stabler there would have been less of a disturbance to interest rates from that source. In the second place, the financial markets would have not had to
react to sharp ups and downs in rates of monetary growth. On both counts, interest rates would have been less volatile, and in my opinion they also would have been decidedly lower. The reason is that the unprecedented volatility of the economy produced a series of demands for distress borrowing on the part of business communities. When the recession seemed to have come to an end in July 1980 it was understandable and natural that businessmen would expect that it would be succeeded by a typical postwar expansion of something like three years. Instead it was cut short after one year in the middle of 1981. At this point businessmen were caught with commitments they had undertaken for various projects which it was not feasible for them to terminate. The result was a highly inelastic demand for credit. At the same time the lack of confidence in Federal Reserve policy and the failure of actual policy to conform with Fed pronouncements led to great concern about whether inflation was in fact going to be controlled. As a result, long-term interest rates incorporated a sizable inflationary expectation and the long-term market was very thin because neither borrowers nor lenders wanted to engage in long-term financial contracts when neither knew whether the inflation rate five years later would be under 5 percent or over 25 percent. The burden of financing was concentrated on the short-term markets and short-term rates alternately zoomed and fell. It is my conjecture that, under the alternative pattern of monetary growth, the average level of short-term rates might well have been something like 3 to 5 percentage points lower than they in fact were.

The lower and less volatile interest rates would have had one by-product that would have been desirable in the short run but unfortunate in the long run, namely, far less pressure for drastic institutional change and hence for deregulation of banking. Money market mutuals would have continued to grow, but would not have exploded as they did. A slowing of financial innovation would have removed a major excuse that the Fed offered for monetary volatility and later still for asserting that the relation between monetary aggregates and nominal income had become undependable. (Is what actually occurred another example of George Kaufman’s self-fulfilling prophecy?)

Lower interest rates and lower unemployment would have meant lower government spending. Higher levels of economic activity would have meant higher revenues. On both scores the deficit would have been lower. The much needed cuts in tax rates would have been able to exert their full supply-side effect and there would have been far less resistance to the further reductions in spending and in tax rates that are so urgently needed.

In particular, the occasion never would have arisen for the introduction of the tax increase bill in 1982. Bad monetary policy does not alter the need to lower tax rates rather than to raise them.

Finally, a price would have been paid for all of those benefits in the form of a somewhat slower decline in inflation. While the high interest rates in and of themselves reduced the demand for money and thus tended to mean an increase in velocity, the high volatility increased the demand for money, as an increase in uncertainty invariably does, and thus tended to make for a decrease in velocity. These effects counterbalanced one another so that the velocity of M1 continued to rise until the fourth quarter of 1981, but from then on the forces making for lower velocity dominated, especially after interest rates fell sharply in the latter part of 1982.

From The Collected Works of Milton Friedman, compiled and edited by Robert Leeson and Charles G. Palm.
All in all, I believe that the benefits from a stabler economy, a higher level of employment, a lower budget deficit, and less pressure to increase government spending would have vastly outweighed the cost of a somewhat slower decline in inflation. Had inflation declined by as much as monetary growth, namely by 2.2 percentage points, the average rate of inflation in the past year and a half would have been 6.9 percent instead of 5.4 percent but inflation would be continuing to taper off, assuming a continuation of the policy of reducing the rate of monetary growth by 1 percentage point a year. On the other hand, the policy that was actually followed produced a more rapid decline in inflation—thanks not to monetary restraint but to monetary volatility—but only at heavy cost—both that already mentioned and the likelihood of being followed by an upsurge in inflation.

The present rate of inflation is not likely to be maintained in view of the very sharp monetary explosion that has been occurring since the third quarter of 1982. From the third quarter of 1982 to the first quarter of 1983 the monetary base grew at the rate of 9.8 percent per year and M1 at no less than 14.3 percent per year. Even a substantial deceleration in these rates of growth will not alter the prospect that inflation has bottomed out and will rise perhaps modestly, perhaps sharply, in the next year or two. A more serious prospect is that the Fed will overreact, and sharply reduce the rate of monetary growth, plunging the economy into another recession in 1984. Such an outcome would be disastrous for future economic policy, almost surely leading to a resumption of earlier policies and to rates of inflation in the later 1980s far higher than those the U.S. has ever experienced, even in wartime.

Another legacy of the non-monetarist policy that the Fed has followed since 1979 has been, as implied at the outset, to discredit a proper monetarist policy, and thereby to have made it far more difficult for such a policy to be adopted. Prophetic self-fulfillment indeed.

Notes

2. The rates of growth of money in the successive five-year periods from 1950–1955, 1955–1960, and 1960 to 1965 were 3.2, 1.0, and 2.9 for M1; 4.0, 3.0, and 6.4 for the monetary aggregate we used in Monetary History of the United States, 1867–1960 (Princeton University Press, 1963) and Monetary Trends in the United States and the United Kingdom (University of Chicago Press, 1982), equivalent to the former Federal Reserve M2; and 5.2, 4.6, and 8.4 for the current Federal Reserve M2 (our M4 in our Monetary Statistics of the United States (Columbia University Press, 1970)). 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. 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.