...money growth rule for one or another of the monetary aggregates, with most choosing M1. The targeting of M1 is based on the constraint imposed by current regulations, as well as on theoretical and empirical considerations. M1 is defined to include assets that are mainly held for transaction purposes. The theory of the transactions demand for money is more highly developed than theories of the demand for money in its other uses, such as a store of value or a unit of account. Furthermore, empirical studies done both inside and outside the Federal Reserve prior to the 1980s showed that the demand for M1 was more predictably related to movements in interest rates and economic activity than were the broader aggregates. As shown above, these "predictable" relationships have not survived in the 1980s.

The monetarist policy prescription became more and more popular as inflation accelerated and as more experience suggested that M1 velocity was stable and predictable. Monetarism became associated with ... to the business cycle or to promote higher employment will either destabilize the economy or lead to inflation or both.

In the Full Employment Act of 1946, Congress gave the federal government (and indirectly, the Federal Reserve) the responsibility to ... to use discretion in the conduct of policy if this involvement destabilizes the economy or leads to inflation or both.


8. For a discussion of why is meant by the term monetarism, see William Poiite, Money and the Economy: A Monetarist View, Addison Wesley Publishing Co., 1978, p. 1-4, or Thomas Mayer, that the way to provide the best environment for long-run economic growth is to provide a stable price level. In retrospect, attempts to use active stabilization policy have been associated with accelerated inflation.

Chart 4 shows the wholesale price index from 1895 to the present. The period from 1895 (actually, the same holds true from the end of the eighteenth century) to World War II was one of relative price stability. The price level rose and fell about at an average that was last seen approximately in 1940.

The Federal Reserve has once again decreased emphasis on the M1 target as a guide for short-run policy actions. In the first half of 1985, M1 growth averaged 11.8 percent, while nominal gross national product (GNP) growth averaged only 4.6 percent and inflation continued to be lower than expected. Policy-makers and economists, including monetarists, agree that M1 is no longer an appropriate short-run guide for monetary policy.

Conclusion

The recent instability of M1 velocity is due to forces that were set in motion by economic policies of the past. Attempts to change important monetary or banking regulatory policy are likely to lead to a temporary period of instability in velocity. Even when this period of transition is over, we should expect M1 velocity to be more variable in a regime of stable prices (or stable inflation) and deregulation of deposit interest rate ceilings than it was during the period of accelerating inflation. To conduct policy efficiently in such an environment, it is important to develop institutions that allow the Federal Reserve to commit to long-run price stability. At the same time, the short-run flexibility to respond to technical advances and other shocks to the structure of financial markets.

The problem for the Federal Reserve, as the monetary system moves to a new phase, is one of responding to a breakdown of the relationship between M1 and economic activity. The first part of this essay makes a claim that is quite simple, although perhaps controversial; namely, that the breakdown of the relationship between M1 and nominal GNP is only apparent. The illusion of stability between M1 and nominal GNP that preceded after World War II resulted from the accelerating inflation and interest rate regulations that uniquely characterized that period. Such stability should not be considered the norm.

In fact, as the first part of this essay shows, the recent variability of M1 velocity, while large in comparison to our experience with short-run changes in the money growth rates in GNP and that velocity would continue to grow 3 percent a year, no matter what the Federal Reserve did. When that short-run relationship disappeared, monetarist naturally lost popularity among economists and policymakers, who viewed monetarism as a justification for fine-tuning nominal GNP growth. However, this emphasis on the short-run relationship between money and economic activity is not unique to the basic monetarist principles that bear on the efficient conduct of monetary policy.

The monetarist prescription for government policy is that it is essentially a theory of money demand, that is, a theory about why people want to hold money balances. The monetarist solution to this problem is to protect the value of money by limiting its quantity. The intellectual foundation for this solution is the Quantity Theory of Money. As formulated by Milton Friedman (Studies in in the Quantity Theory of Money, 1956), it is essentially a theory of money demand, that is, a theory about why people want to hold money balances.

The most important factor determining the demand for M1 is the level of transactions. It is common practice to use nominal GNP as an approximate measure of transactions because aggregate transactions data are not available. Over a relatively short period (say three to six months to a year), quantity theorists expect the demand for money to rise or fall in a predictable fashion in response to changes in GNP. The ratio of nominal GNP to the amount of money is termed the money multiplier. When the turnover per year, or the velocity of circulation, of money. Of course, velocity is not a constant. There are seasonal and other variable factors affecting money demand and thus the money supply should be changed.

Of the nonseasonal factors, the most important are probably interest rates and technological innovations affecting money demand, that is, changes in bank rates and in the volume of financial markets. Of the nonseasonal factors, the most important are probably interest rates and technological innovations affecting money demand, that is, changes in bank rates and in the volume of financial markets. Of the nonseasonal factors, the most important are probably interest rates and technological innovations affecting money demand, that is, changes in bank rates and in the volume of financial markets.
When interest rates rise, people economize on non-interest-bearing currency and on checking balances, and then velocity falls. When rates fall, people are more willing to leave funds idle as cash balances, and velocity rises. Of course, interest rates vary day by day, but firms and households do not adjust their money balances to every short run change in interest rates. It takes time and resources to rearrange our monetary affairs. Therefore, the adjustments will be made when it is convenient, or when there is a significant change in the level of interest rates above that people expect to be sustainable.

We have also seen a rise in velocity (decline in the demand for money) with the rapid innovations in cash management techniques. The technological innovations were partly spurred by rising interest rates; when interest rates were low, the economy was using old and expensive cash management methods that were economically inefficient, but with lower marginal costs, will remain.

### The Velocity Breakdown in the 1980s

During the 1970s, many came to believe that these factors (interest rates and innovations in cash management) didn’t matter too much for the purpose of choosing the M1 target. While velocity growth was quite variable from quarter to quarter, fluctuations were largely offsetting. Over periods of a year or two, M1 velocity usually seemed to grow at a steady rate of 3 percent, regardless of what happened in the short run to interest rates and advances in cash management.

Indeed, one of the debates among economists was whether the Federal Reserve’s monetary policy should take account of changes in interest rates and other factors affecting money demand. Monetarists said no, claiming that while interest rates mattered in theory, they did not seem to matter much in practice. A more accurate version of velocity and interest rates in the period from 1950 to 1980 seems to confirm the monetarist position.

**Velocity of M1 and the Commercial Paper Rate, 1895-1985**

<table>
<thead>
<tr>
<th>Year</th>
<th>M1 Velocity</th>
<th>Commercial Paper Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1895-1929</td>
<td>Flat</td>
<td>Flat</td>
</tr>
<tr>
<td>1929-1950</td>
<td>Flat</td>
<td>Flat</td>
</tr>
<tr>
<td>1950-1980</td>
<td>Flat</td>
<td>Flat</td>
</tr>
</tbody>
</table>

**Chart 2** Velocity of M1 and the Commercial Paper Rate, 1895-1985

**Chart 3** M1 Velocity Growth, 1895-1985

- **SOURCE:** Federal Reserve Bank of Cleveland.

### A Monetarist Critique of Recent Experience

When one takes the longer perspective, we see that it was a mistake to expect so much of M1 in the first place. The monetarists’ philosophy of money supply management, which holds the intellectual basis for monetary targeting, was developed with this longer perspective in mind. The most basic tenet of the monetarist philosophy is that the economy will function most efficiently if government institutions and policies are structured to permit market forces to operate with as little day-to-day intervention from government as possible.

Monetarists think that if monetary institutions are properly structured, the economy is inherently stable, and it will tend toward full employment even when buffeted by outside shocks such as weather and changes in population. Consequently, monetarists tend to attribute long period fluctuations of large economic fluctuations to inefficient government institutions or to inappropriate policy actions.

### The Breakdown of M1 in the 1980s

- **Inflation:** 3.5 percent
- **Interest Rates:** 6 percent
- **Velocity:** 4 percent

- **SOURCE:** Federal Reserve Bank of Cleveland.

### Chart 4 Wholesale Price Index, 1985-1995

- **SOURCE:** Federal Reserve Bank of Cleveland.

- **The Breakdown of M1 in the 1980s:**
  - **Inflation:** 3.5 percent
  - **Interest Rates:** 6 percent
  - **Velocity:** 4 percent

Monetarists argue that the social costs of having the economy adjust to money demand disturbances are lower when the social costs of the economy adjust to the uncertain environment associated with discretionary monetary policy. While one cannot prove or disprove the proposition that money demand disturbances are costlier if monetary policy is discretionary than if it is stabilizing, the proposition is a fundamental assumption leading to the call for a constant money growth rule.

- **Chapter 7:** Friedman and Schwartz attribute the steep decline in velocity to the seventy of the depression and the 35 percent decline in the stock of money between August 1929 and April 1933.
When interest rates rise, people economize on non-interest-bearing currency and on checking balances, and then velocity falls. When interest rates fall, people are more likely to leave funds idle as cash balances, and velocity falls. Of course, interest rates can change day by day, but firms and households do not adjust their money balances to every short run change in interest rates. It takes time and resources to rearrange our monetary affairs. Therefore, the adjustments will be made when it is convenient, or when there is a significant change in the level of interest rates that people expect to be sustained.

We have also seen a rise in velocity (decline in the demand for money) with the advance of technology and innovations in the banking industry. For example, households use credit cards for transactions, reducing average balances that are kept in checking accounts. Firms have developed a wide array of non-interest-bearing money management tools. The technological innovations were partly spurred by rising interest rates; when interest rates rise, the economy's demand for money management methods will become uneconomical, but others, with lower marginal costs, will remain.

### The Velocity Breakdown in the 1980s

During the 1970s, many came to believe that these other factors (interest rates and innovations in cash management) didn't matter too much for the purpose of choosing the M1 target. While velocity growth was quite variable from quarter to quarter, fluctuations were largely offsetting. Over periods of a year or two, M1 velocity usually seemed to grow at a rate of 3 percent, regardless of what happened in the short run to interest rates and advances in cash management. Indeed, one of the debates among economists was whether the Federal Reserve's monetary policy could take account of changes in interest rates and other factors affecting money demand. Monetarists said no, claiming that while interest rates mattered in the very short run, say within the period of a month. Yet current rules require that banks adjust their portfolios to meet the new Federal Reserve target every two weeks. This only makes sense if one wants to force the economy to adjust to a fixed path for M1, no matter what the cost. Such an arrangement is not likely to be optimal, however, if we view the money stock as a buffer to hedge against transactions and other marketing costs associated with mismatched income and commodity flows.

Setting a constant growth rule for the monetary base under current regulations could lead to highly volatile interest rates. To avoid sharp swings in interest rates, the Federal Reserve would have to monitor constantly the demand for reserves and attempt to counter shifts in this demand with offsetting changes in the supply of reserves. The discretion with which authorities deal provides another safety valve that supplies reserves whenever there is an unexpected increase in demand. Indeed, rules that could lead to high interest rates by setting a constant growth rule for the supply of base money. For example, when the Federal Reserve was about to introduce the very short run, say within the period of one month. Yet current rules require that banks adjust their portfolios to meet the new Federal Reserve target every two weeks. This only makes sense if one wants to force the economy to adjust to a fixed path for M1, no matter what the cost. Such an arrangement is not likely to be optimal, however, if we view the money stock as a buffer to hedge against transactions and other marketing costs associated with mismatched income and commodity flows.

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### A Monetarist Critique of Recent Experience

When we look at the longer perspective, we see that it was a mistake to expect so much of M1 in the first place. The monetarists' philosophy, which was based on the intellectual basis for monetary targeting, was developed with a longer time horizon. The most basic tenet of the monetarist philosophy is that the economy will function most efficiently if government institutions and policies are structured to permit market forces to operate with as little day-to-day interference from government as possible.

Monetarists think that if monetary institutions are properly structured, the economy is inherently stable, and we will trend toward full employment even when buffeted by outside shocks such as weather and changes in population, technology, or tastes. Consequently, monetarists tend to attribute long periods and periods of low economic fluctuations to inefficient government institutions or to inappropriate policy actions.

Given efficient and stabilizing institutional, monetarists conclude that the best the monetary authority can do is to supply the monetary base at a constant growth rate. The monetary base is given, in principle, by the supply of money demand is quite predictable in the short run.

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Monetarism and the M1 Target
by William T. Gavin

The Federal Reserve has once again decreased emphasis on the M1 target as a guide for short-run policy actions. In the first half of 1986, M1 growth averaged 11.8 percent, while nominal gross national product (GNP) growth averaged only 4.6 percent and inflation continued to be lower than expected. Policymakers and economists, including leading monetarists, argue that M1 is no longer an appropriate short-run guide for monetary policy.

The Federal Reserve Bank of Cleveland


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