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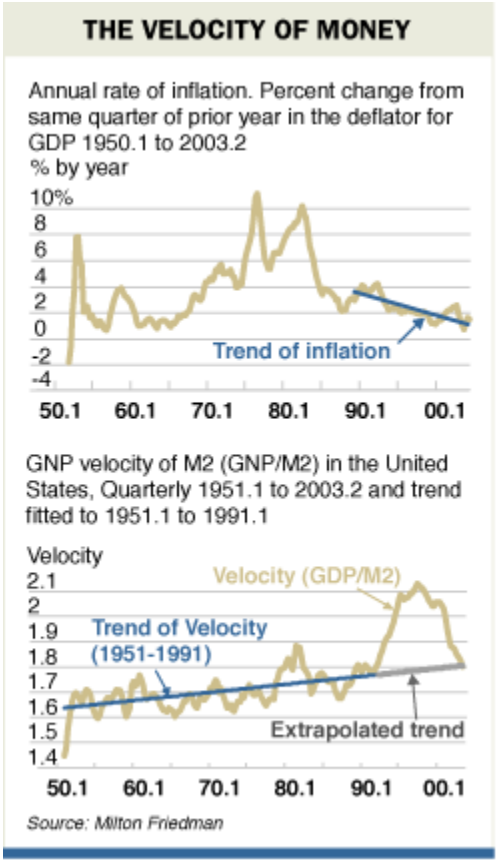
COMMENTARY



The Fed's Thermostat

By MILTON FRIEDMAN

Fifteen years ago, in an op-ed on this page entitled "The Fed Has No Clothes" (April 15, 1988), I wrote, "No major institution in the U.S. has so poor a record of performance over so long a period as the Federal Reserve, yet so high a public recognition." As I believe my column demonstrated, that judgement is amply justified for the first seven decades or so of the Fed's existence. I am glad to report that it is not valid for the period since.

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The basic responsibility of the Federal Reserve is to produce as close an approximation as possible to price stability. Chart 1 provides evidence on how well it has performed that function. It plots for each quarter the annual rate of inflation in a comprehensive price index -- the deflator used to calculate real GDP.

The contrast between the periods before and after the middle of the 1980s is remarkable. Before, it is like a chart of the temperature in a room without a thermostat in a location with very variable climate; after, it is like the temperature in the same room but with a reasonably good though not perfect thermostat, and one that is set to a gradually declining temperature. Sometime around 1985, the Fed appears to have acquired the thermostat that it had been seeking the whole of its life.

A convenient way to explain the Fed's problem is with a truism called the quantity equation of money: the quantity of money (M) times the velocity of circulation (V) equals the price level (P) times output (y), MV=Py.

The Fed does not control directly any of the variables in this equation. For all practical purposes, the Fed controls one thing and one thing only: the volume of its own obligations -- that is, high-powered money or the base. (The Fed controls the amount of high-powered money through open-market operations: when it buys

securities, it adds to the base; when it sells securities, it subtracts from the base. In addition, the Fed can change the discount rate and, to some extent, reserve requirements. But those powers are of minor importance compared to open-market operations and serve only to obfuscate the analysis.)

Control over the base enables the Fed, if it chooses to do so, to control within narrow limits any one of a number of monetary aggregates, such as M1, M2 or M3 (corresponding to each aggregate, there is a matching velocity). Its control over these is absolute. It could make the chosen aggregate rise or fall at the annual rate of 2% or 5% or 10%, or you name it, not day by day or week to week but certainly quarter to quarter and year to year. Control over the base also enables the Fed to peg any of a number of interest rates, such as the federal-funds rate or the three-month Treasury bill rate. In practice, the Fed employs a changeable peg of the federal-funds rate as its operating instrument. It pegs the fund rate by open-market operations, in the process determining the rate of monetary growth.

To keep prices stable, the Fed must see to it that the quantity of money changes in such a way as to offset movements in velocity and output. Velocity is ordinarily very stable, fluctuating only mildly and rather randomly around a mild long-term trend from year to year. So long as that is the case, changes in prices (inflation or deflation) are dominated by what happens to the quantity of money per unit of output.

Prior to the 1980s, the Fed got into trouble because it generated wide fluctuations in monetary growth per unit of output. Far from promoting price stability, it was itself a major source of instability, as Chart 1 illustrates. Yet since the mid '80s, it has managed to control the money supply in such a way as to offset changes not only in output but also in velocity. This sounds easy but it is not -- because of the long time lag between changes in money and in prices. It takes something like two years for a change in monetary growth to affect significantly the behavior of prices.

The improvement in performance is all the more remarkable because velocity behaved atypically, rising sharply from 1990 to 1997 and then declining sharply -- a veritable bubble in velocity. Chart 2 shows what happened. Velocity peaked in 1997 at nearly 20% above its trend value and then fell sharply, returning to its trend value in the second quarter of 2003.

The relatively low and stable inflation for this period documented in Chart 1 means that the Fed successfully offset both the decline in the demand for money (the rise in V) before 1973 and the subsequent increase in the demand for money. During the rise in velocity from 1988 to 1997, the Fed kept monetary growth down to 3.2% a year; during the subsequent decline in velocity, it boosted monetary growth to 7.5% a year.

Some economists have expressed concern that recent high rates of monetary growth have created a monetary overhang that threatens future inflation. The chart

indicates that is not the case. Velocity is precisely back to trend. There is as yet no overhang to be concerned about.

The obvious question: whence the new thermostat? Why just then? Given the near coincidence of the improved behavior and Alan Greenspan's tenure as chairman of the Fed, it is tempting to conclude that Mr. Greenspan was the new thermostat. I am a great admirer of Alan Greenspan and he deserves much credit for the improvement in performance, yet this simple explanation is not tenable. It is contradicted by the simultaneous improvement in the control of inflation by many central banks at about the same time, including the central banks of New Zealand, the United Kingdom, Canada, Sweden, Australia, and still others. Many of these central banks adopted a policy known as inflation targeting, under which they specified a narrow target range for inflation -- 1% to 3%, for example. But inflation targeting and non-inflation targeting central banks did about equally well in controlling inflation, so explicit inflation targeting is not the answer.

Yet it does, I believe, suggest the answer. Central banks the world over performed badly prior to the '80s not because they lacked the capacity to do better, but because they pursued the wrong goals according to a wrong theory. Keynes had taught them that the quantity of money did not matter, that what mattered was autonomous spending and the multiplier, that the role of monetary policy was to keep interest rates low to promote investment and thereby full employment. Inflation, according to this vision, was produced primarily by pressures on cost that could best be restrained by direct controls on prices and wages.

That Keynesian vision was thoroughly discredited by experience in the '70s and '80s. It has since been replaced by what has become known as New Keynesian Economics, which incorporates some key quantity theory (monetarist) propositions: that inflation is always and everywhere a monetary phenomenon; that monetary policy has important effects on real magnitudes in the short run but no important effects in the long run (the long run Phillips curve is vertical), the crucial function of a central bank is to produce price stability, interpreted as a low and relatively steady recorded rate of inflation. Once the banks adopted price stability as their primary goal, they were able to improve their performance drastically.

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Admittedly, this is an oversimplification. The accumulation of empirical evidence on monetary phenomena, improved understanding of monetary theory, and many other phenomena doubtless played a role. But I believe they were nowhere near as important as the shift in the theoretical paradigm. The MV=Py key to a good thermostat was there all along.

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