

## Commentary

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*William Nordhaus*

As we gather here in these magical mountains to analyze strategies for efficiently **combating** inflation, something bizarre is going on. *The New York Times* on Tuesday editorialized about the dangers of deflation. An outside observer might think that we should be sent to a sanatorium rather than an auditorium. Perhaps, like Hans Castorp, who went to visit his lieutenant cousin, we should use our trip to this mountain paradise to pause and question whether, in a world of deflation, 'tis sane to continue our obsessional pursuit of credible anti-inflationary rules.

But conferences, like inflation, have their inertia. So I will turn to my assigned **task** of discussing the paper of Rick Mishkin. His argument takes three steps:

- Inflation is a monetary phenomenon.
- Credible policies will make inflation even more of a monetary phenomenon.
- A programmable rule—such as nominal GNP targeting—is an effective credible policy.

To dispel any suspense, let me say that while each of these is plausible, they are incomplete. To rest policy on these three doctrines is to commit an unproven and perhaps a dangerous oversimplification.

### **Inflation as a monetary phenomenon**

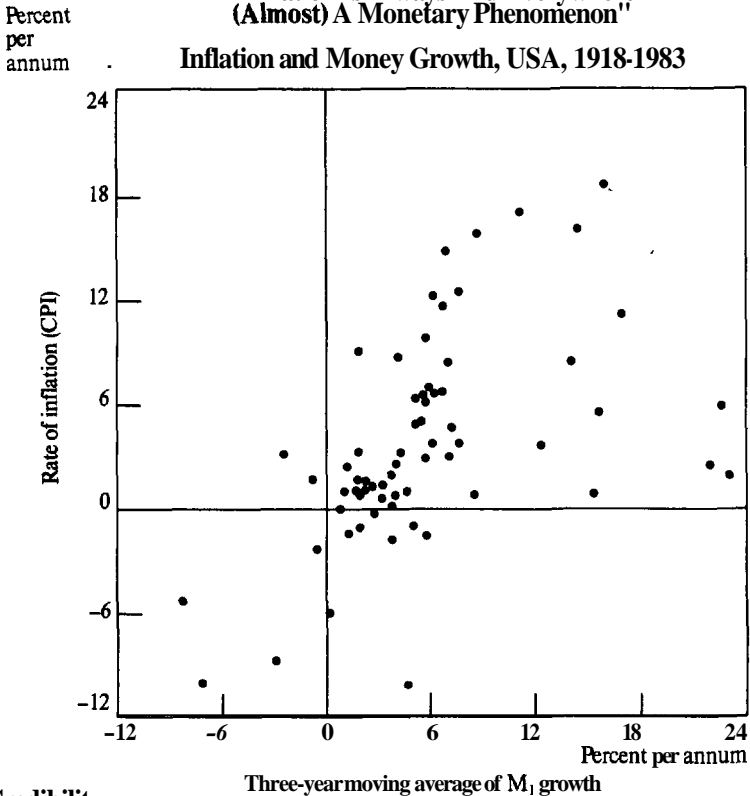
The proposition that inflation is a monetary phenomenon is, of course, an old saw. I thought that by this point its half truth was well established. In today's canonical model of inflation, it is a correct long-run proposition: That is, a step-up of money growth from  $x$  to  $x + 1$  percent per annum will, in the long run, lead to close to a 1 percent per annum increase in inflation.

The only problem with this proposition is that—because the long-run may be long and because other things will not remain equal—it is a poor

approximation to reality over periods of one, two, or five years. It is akin to the saying, 'Death is an octogenarian **phenomenon**.' Surely few people survive 80 years, and few die before 40. But to base the practice of medicine on the proposition that death results only from reaching four-score years would be a tragic error.

Figure 1 will give you an idea of how tight the monetarist suit fits. It is the regression of CPI inflation on money in the current and two previous years over the period since 1918. If it gives you the impression of a pretty weak relationship, I would like to agree with you.

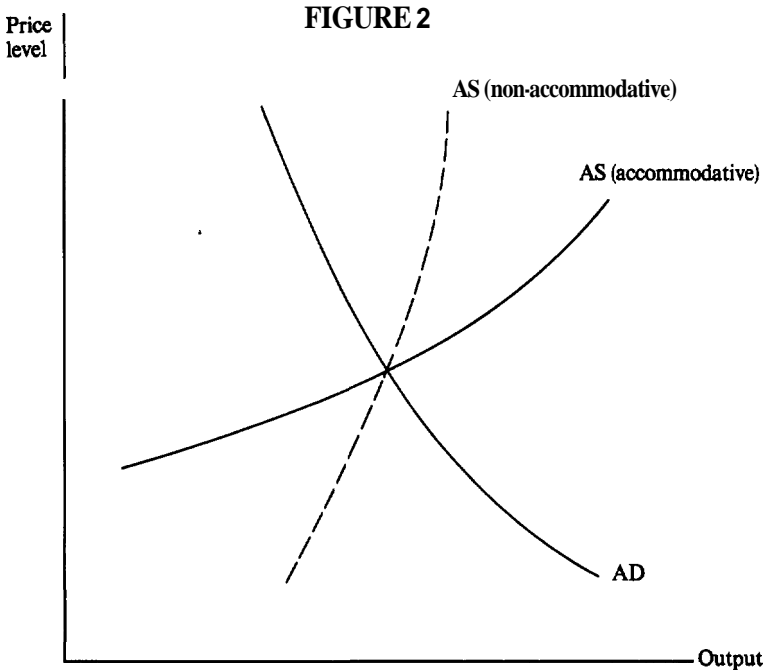
**FIGURE 1**  
**"Inflation Is Always And Everywhere**  
**(Almost) A Monetary Phenomenon"**



**Credibility**

The major thrust of Mishkin's paper is to endorse the proposition that a credible anti-inflation policy will achieve disinflation at lower output cost than will a **non-credible** anti-inflation policy. Putting this somewhat more technically, a non-accommodative policy is defined as one that does not

shift AD to offset a shift in AS. The proposition is then that, when workers and firms know that policymakers will not accommodate supply shocks, the AS curve will become steeper (as in Figure 2). This steepness means that AD shocks will have less impact on Q and that 'cold-turkey' disinflation policies will be more efficient (in **Okun's** sense of lowering the output loss per point of disinflation) than gradual policies.'



This analysis raises two issues: First, Mishkin and others claim that a discretionary policy will be more accommodative than a policy based on rules. And second, some **claim** that a non-accommodative policy will have a significant effect on wage and price behavior, rotating the AS curve in Figure 2 by many degrees. I will argue that the first of these points is misleading, while the second is not supported by empirical evidence.

Starting with the first contention, would the nation and world be well served by a shift to a programmable economic policy?

I am skeptical. The theories are weak, and the lessons of history argue strongly against discarding in favor of a simplistic rule the brains that it took us one billion years to evolve.

To begin with, remember that the case for rules is partly political—an aversion by conservatives to government taking any actions, a plea for

neutrality. How government can be neutral today is beyond me—claiming to be neutral is like claiming to be dead.

The more interesting and novel argument is that fixed rules induce better behavior on the part of workers and firms. Knowing that the Fed will bomb the real economy whenever inflation rises, the theory goes, workers and firms will restrain their wage and price increases. This strategy is similar to the "doomsday device" of early strategic theory.

You may recall that the doomsday device was a deterrent strategy described by the late Herman **Kahn**. The idea was that, should the Soviets drop a bomb on us, the doomsday device would automatically explode and wipe out the globe. When faced with such a device, all rational agents would clearly be deterred from nuclear attack. The anti-inflationary fixed rules have a similar theme—you have to be credibly willing to destroy the economy in order to save it.

Why, you might ask, was a doomsday defense **policy** not pursued? Simply because of its lack of robustness to unforeseen events—like accidents. And this is indeed the main problem with **fixed** economic rules. We simply don't understand the world well enough to program our response. Think of every time a rule ran contrary to what discretion would dictate. For example, 1977, 1978, 1979, 1980, 1981, 1982, 1983, and 1984. It is just those periods when Paul Volcker and his colleagues earn their salary. Every time there is a price, output, unemployment, or velocity surprise, we need a human brain to figure out why the surprise occurred and what to do about it.

Recent history should also convince the openminded about the perils of fixed rules. The Federal Reserve turned to a close approximation of pre-committed monetary rules in 1979. Who foresaw the 60 percent real appreciation of the dollar, the \$100-billion current-account deficit, the enormous rise in real interest rates, the deep recession, the flight from fixed-interest rate securities, and the problem of Latin debt? We can only be grateful that a fixed-M rule had not been imposed by a constitutional amendment and that the Fed had the wit and wisdom to break with rigid monetarism before construction workers stormed the Fed.

Fixed-rules advocates, in short, suffer from the **Maginot** fallacy. They think that we know who the enemy is and where he will strike. In fact, we often don't; and on just those occasions we need some common sense.

There are other problems with the doomsday theory. One is that it misconstrues the protagonists. The uncertainties facing firms and workers are predominantly microeconomic, not monetary. Allied Van Lines and the Teamsters don't much care about whether policy is accommodative, because their livelihoods depend much more on trucking regulation and the

NLRB. Given the bounded rationality of most firms, workers, and unions, I would guess that a change of policy regime would be below the threshold of perception and of reaction. It is hard to believe that there would be any direct effect on Ford Motor Company's pricing policy or the UAW's wage negotiations, or on most wage-price behavior outside of auction markets, of a change in the monetary operating rule.

Put differently, in an economy where the policymakers face a rational agent who controls a substantial proportion of an economy's wage or price decisions, a doomsday threat might indeed work. But in the U.S. today, there are too many firms and workers, who are more concerned about Japanese engineers than about Fed economists, for any credible or incredible policy to have a substantial independent effect on aggregate wage-price dynamics.

If we turn from military to economic history, the evidence is not supportive of the power of credibility. I am sure this conference will debate the effect of the Volcker-Carter-Reagan disinflation. The numerous studies on this period for the United States indicate that the contribution of credibility was somewhere between nil and small. Buiter and Miller find that the much more credible disinflationary policies in the U.K. had extremely high output and unemployment costs.

I would like to present a small piece of independent evidence on this issue. The credibility view implies that inflation should fall faster during a credible disinflation regime than outside it. We might write such a system as follows:

$$(1) \quad p_t = ap_t^* + (1-a)p_{t-1} - bu_{t-1} + e_{1,t}$$

$$(2) \quad p_t^* = \sum \lambda_i p_{t-i} - d \text{Cred}_t + e_{2,t}$$

where

- $p_t$  = rate of price inflation in period  $t$
- $p_t^*$  = expected rate of price inflation in period  $t$
- $u_t$  = unemployment rate in period  $t$
- $\text{Cred}_t$  = credibility of policy in period  $t$
- $\lambda, a, b, d$  = parameters
- $e_1, e_2$  = random errors

The usual fashion of testing for credibility (see particularly the work of R. J. Gordon) is to substitute (2) into (1). Assuming  $e_2 = 0$ ,

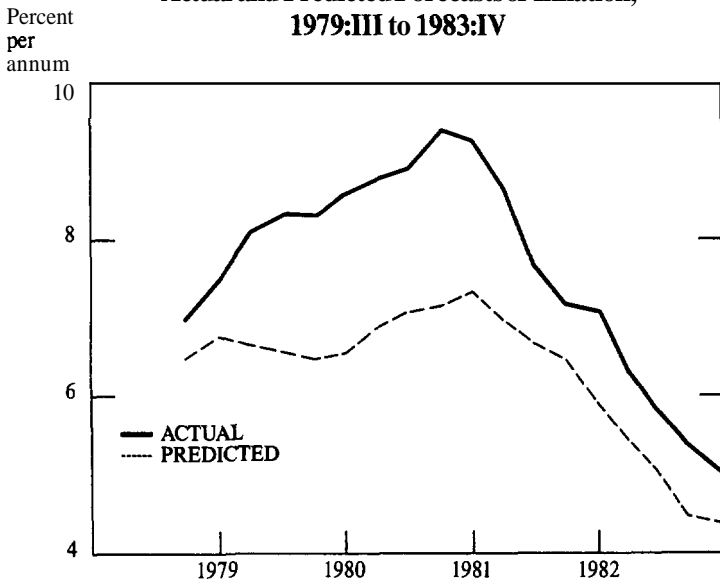
$$(3) p_t = a [\sum \lambda_i p_{t-i}] + (1-a)p_{t-1} - b u_{t-1} - a d \text{Cred}_t + e_{1,t}$$

By examining forecast errors in the inflation equation (say during 1979-83), we can test whether the term  $a d \text{Cred}_t$  was significant.

A different and simpler route is to test (2) directly. I have constructed, therefore, an expected rate of inflation, using the ASA-NBER survey of 50 forecasters. This was estimated during the 1970s and then forecast out-of-sample during 1979:III-1983:IV. Such a forecast may have included both lagged inflation and policy variables, so I performed the test with and without money growth as right-hand side variables.

The results, shown in Figures 3 and 4, give no comfort to the credibility hypothesis. If a credible policy had been installed, actual inflation forecasts should have been *below* those predicted by the structure of earlier years. Instead, both with and without money growth in the equation, the actual forecasts were above the predicted forecasts.

**FIGURE 3**  
**Actual and Predicted Forecasts of Inflation,**  
**1979:III to 1983:IV**



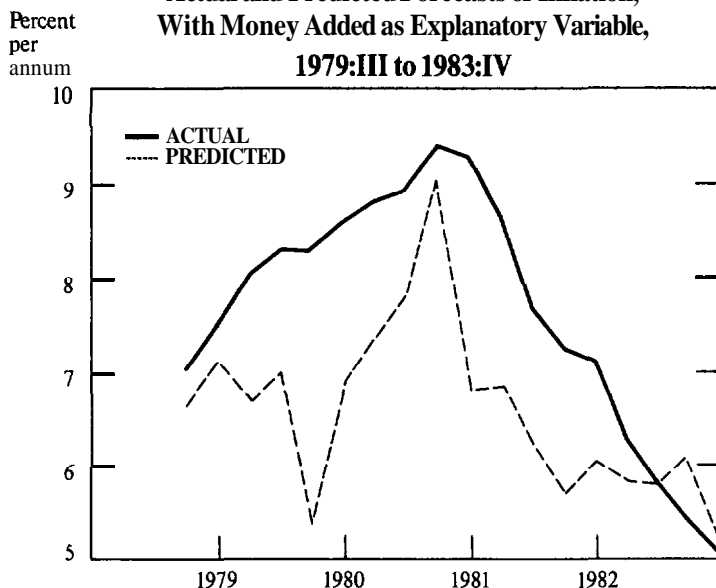
Notes: The dependent variable is the ASA-NBER median forecast of inflation for the **GNP** deflator over the four quarters ahead of the survey month. In this figure the explanatory variables are lagged inflation for the last and three earlier quarters. The forecasts are made on the basis of an equation fitted over the 1972-1979:II period and forecast with the actual values of the right-hand side variables in the post-sample period.

This result suggests that there was no identifiable effect of the credibility through expectations and onto inflation. Rather, it was events in the real (as opposed to the perceived) economy that disinflated the economy. This, of course, is just what studies of Gordon, Blanchard, Eckstein, Perry, and others have shown.

**Fixed rules**

What can we then conclude about fixed rules, such as targeting nominal GNP? Surely there is something to be said for a nominal GNP rule (or a Hall rule). It is better than an  $M_1$ -growth rule, an  $M_2$ -growth rule, a monetary-base rule, or a credit rule. It is better than chaos or a random number rule. It is better than a gold standard or a plywood standard.

**FIGURE 4**  
**Actual and Predicted Forecasts of Inflation,**  
**With Money Added as Explanatory Variable,**  
**1979:III to 1983:IV**



Notes: The procedure is exactly the same as in Figure 3, except that four lagged money terms are added to the right-hand side of the regression equation.

But is it better than the flexible discretionary guidance of W. M. Martin, Arthur Burns, or Paul Volcker? I think not. The scientific argument for a rule rests entirely on the view that by changing regimes we can improve the nation's macroeconomic performance. If the best evidence suggests that our macroeconomic performance has deteriorated, as I think it does,

then the intellectual foundation for the fixed rule crumbles.

In the movie *War Games*, the fixed-rule crowd has captured the Pentagon. An enormous computer known as the Whopper has taken over all strategic decisions. Of course an enormous Blooper sets the Whopper off onto the game called Global Thermonuclear War. Only the daring of a teenage hero and his friend can save the world by heading off the Whopper. *All* I can hope is that when we program the Fed's Whopper to run the global economy, some sensible teenager—not mesmerized by elegant but misleading theories—will figure out how to save us from global macroeconomic disaster.