

**Comments on Levin and Taylor,
“Falling Behind the Curve”**

Bennett T. McCallum

Carnegie Mellon University
and
National Bureau of Economic Research

Revised May 21, 2009

Prepared for presentation at the NBER conference “The Great Inflation,” September 25-27, 2008, in Woodstock, Vermont.

I enjoyed this paper by Andy Levin and John Taylor very much. I started studying economics in the early-mid 1960s, about the time that Levin and Taylor date the beginning of the great inflation, and moved into monetary economics as the inflation progressed. I recall discussing Volcker's announcement of October 6, 1979, with Allan Meltzer during a visit to Carnegie-Mellon just a week or so later. And I recall a telephone conversation with Maarvin Goodfriend during the summer of 1981 at a time at which the Federal Reserve was trying to decide whether to let the M1 growth rate climb back into its official target range, after finally getting it down to about 2% per annum.

Anyhow, the account given by Levin and Taylor rings true. More specifically, I think they are correct to re-date the Great Inflation (GI) away from the "1970s" label, although I believe most of us have understood that to be the case, with the label used just as a shorthand. They date the episode as 1965-1980. A look at the data—see Table 1 below—shows that base-money growth rates were significantly higher after 1964 than before, so their start date seems about right. Stating that the GI "ended in late 1980" seems a bit inadequate, however. The interest easing in spring 1980 came about after the imposition of credit controls, against the Fed's wishes, which precipitated a truly sharp fall in output. To me it was the tight money over the first 2/3 of 1981 that was crucial—the tightness shows up, by the way, in M1 growth figures when "adjusted" values used by the Fed at the time are taken into account. (Mine come from Broaddus and Goodfriend (1984).)

In this paper, Levin and Taylor make two analytical claims that will be contested by some participants. First, they dispute the idea that the GI can be attributed to mis-measurement of the output gap. Since Athanasios Orphanides is here at the conference, I

Table 1

Selected Statistics, percentages (average or changes)

Year or Average Over:	CPI Infl. Dec.to Dec.	Fed Funds Rate	“Real” Funds Rate	M1 Growth Rate	Adj. M1 Growth: AB&MG (1984)	Unemployment Rate
1960-4	1.2	2.9	1.7	2.8		5.7
1965-9	3.9	5.4	1.5	5.0		3.8
1970-4	6.7	7.1	0.4	6.1		5.4
1975	6.9	5.8	-1.1	4.7		8.5
1976	4.9	5.0	0.1	6.7	5.8	7.7
1977	6.7	5.5	-1.2	8.0	7.9	7.1
1978	9.0	7.9	-1.1	8.0	7.2	6.1
1979	13.3	11.2	-2.1	6.9	6.8	5.8
1980	12.5	13.4	0.9	7.0	6.9	7.1
1981	8.9	16.4	7.5	6.9	2.4	7.6
1982	3.8	12.3	8.5	8.7	9.0	9.7
1983	3.8	9.1	5.3	9.8	10.3	9.6
1984	3.9	10.2	6.3	5.8	5.2	7.5
1985-9	3.7	7.8	4.1	7.7		6.2

Source: McCallum (2008)

will not spend my time discussing that claim. Second, by arguing that there was not a single regime in place during the relevant years, they in effect deny the idea—associated with Clarida, Gali, and Gertler (2000) and Taylor (1999)—that the problem was “instability” resulting from a rule that does not satisfy the Taylor Principle. Here I think that their “shifting inflation target” hypothesis could perhaps be represented as one hyper-rule that does fail to satisfy the Taylor Principle. In that case, the conclusion (as is now fairly well known) is that the difficulty is the non-learnability of either of the two stable RE solutions (McCallum, 2003).

A major feature of the Levin and Taylor analysis is their Figure 6, which is a Taylor- rule type of diagram, with differing inflation targets for different periods, and with the rule expressed as a real-rate rule (using the Livingston measure for expected inflation).

My reading of this plot shows actual rates being fairly consistent with a Taylor rule with target inflation $\pi^* = 5$ over 1966-75 (except for 69-70) and with $\pi^* = 8$ over 1977-80. That is slightly different from their stop-start episodes, but is also different from a maintained Taylor rule with $\pi^* = 1$ or 2 percent, and more different at the end of 1965-1980. I do not disagree basically with their characterization of policy, except that I would give even more emphasis to the idea that the Fed was simply not taking responsibility for inflation control. Of course, there were many academics in the 1960s (and early 1970s) who thought of several other topics, rather than monetary policy, when discussing inflation.

Levin and Taylor's use of real-rate versions of the Taylor rule is useful, but does not give a drastically different conclusion than a nominal-rate comparison between rule and actual values, as in Taylor (1999). This type of comparison continues, I believe, to be valuable. In that regard, it is interesting to compare messages of four different rules discussed in McCallum (2000). These rules are as follows:

$$(1) \quad R_t = \bar{r} + \Delta p_t^a + 0.5(\Delta p_t^a - \pi^*) + 0.5 \tilde{y}_{t-1}$$

$$(2) \quad \Delta b_t = \Delta x^* - \Delta v_t^a + 0.5(\Delta x^* - \Delta x_{t-1})$$

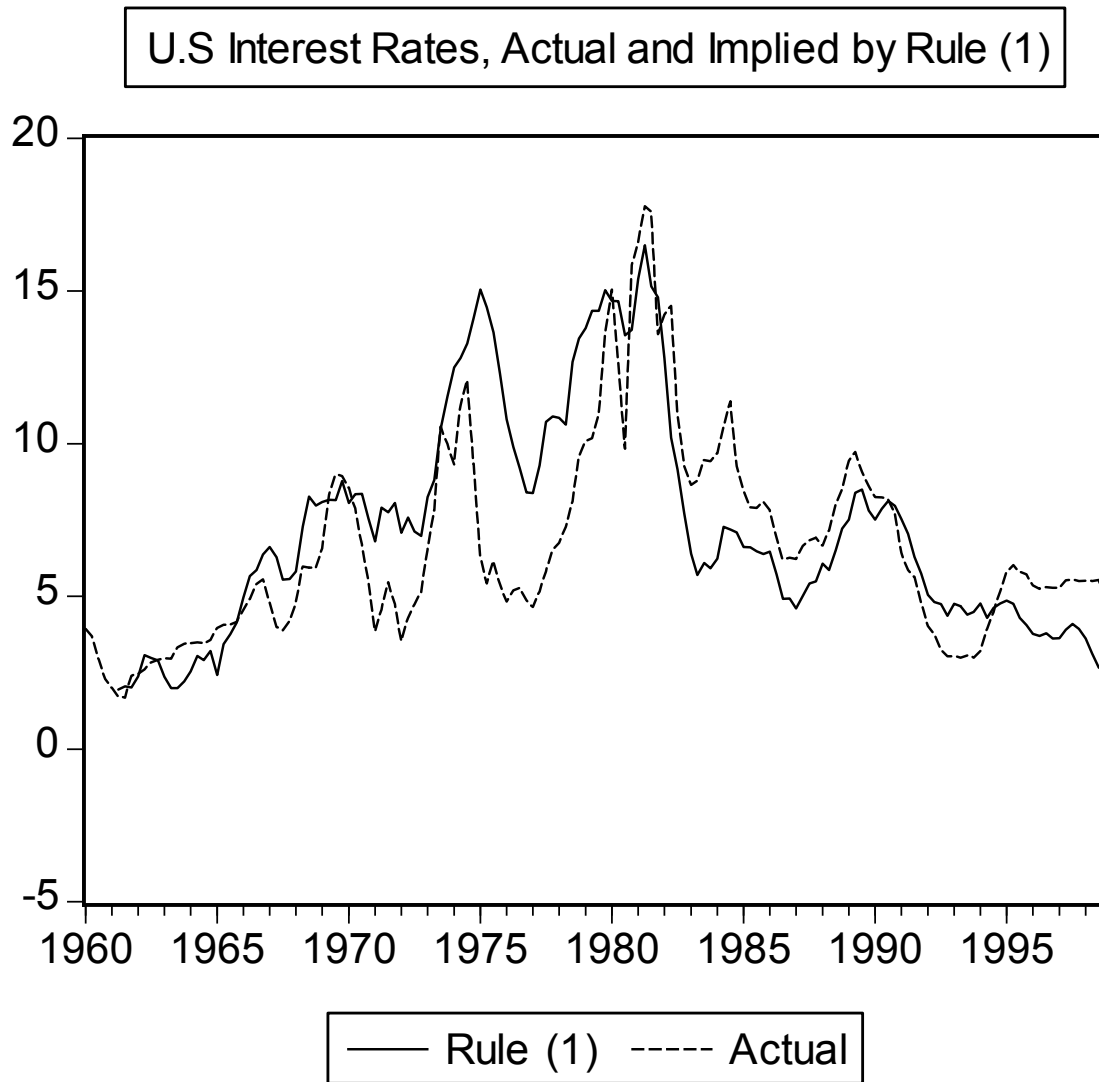
$$(3) \quad R_t = \bar{r} + \Delta p_t^a - 0.5(\Delta x^* - \Delta x_{t-1})$$

$$(4) \quad \Delta b_t = \Delta x^* - \Delta v_t^a - 0.5h_{t-1}$$

The data uses reflect annualized percentages, 1960.1-1998.4. Variables are :

$R = \text{FFR}$, $x = \log \text{GDP}$, $y = \log \text{real GDP (linked)}$, $p = x - y$, $\Delta p_t^a = \text{average of past 4 quarters}$, $\Delta v_t^a = \text{average of past 16 quarters}$, \tilde{y}_t is Hodrick-Prescott cycle component, $\pi^* = 2$, $\bar{r} = 2$, $\Delta x^* = 5$, h is the composite target defined in (1).

Figure 1

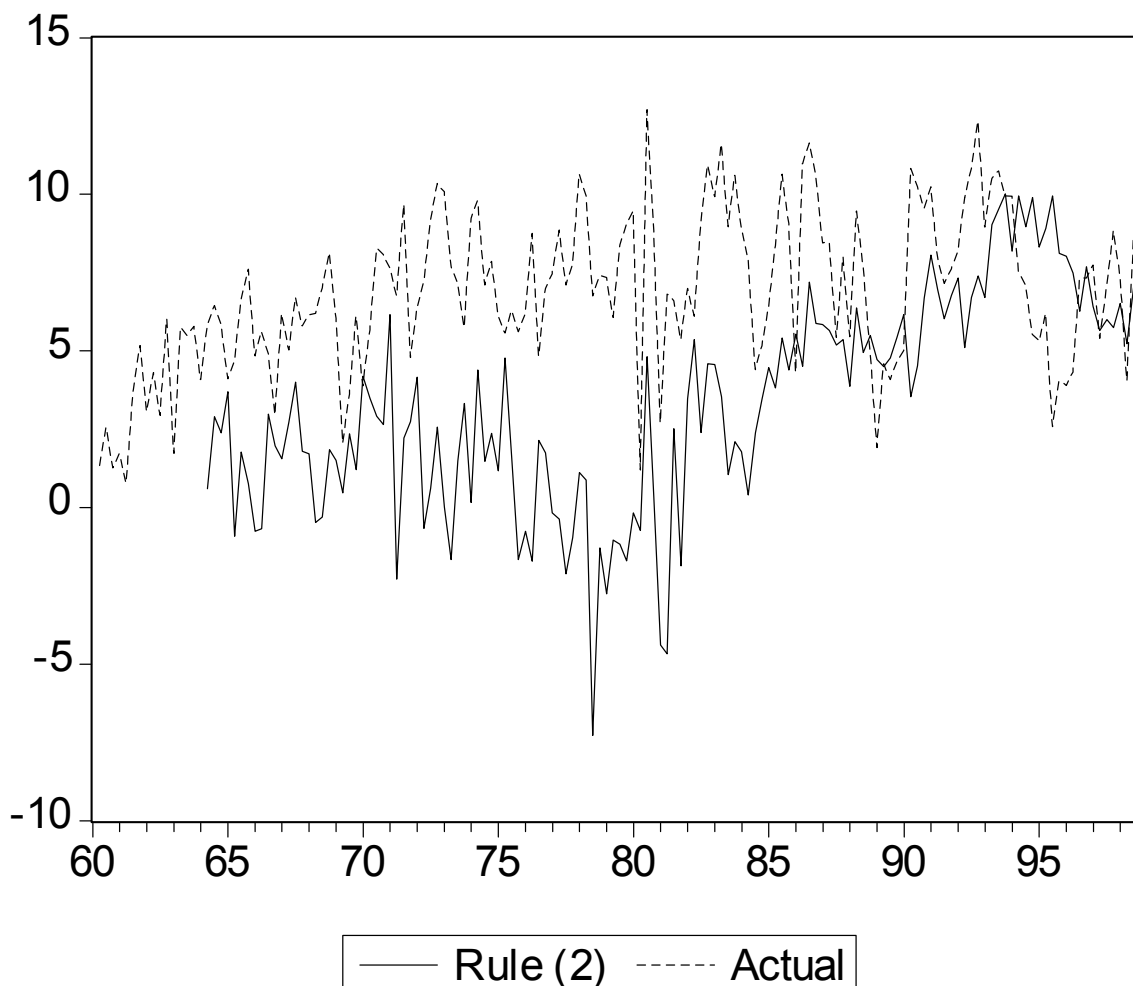


Here the picture suggests that the Federal Funds rate was below the Taylor-rule prescription for almost every quarter during 1966-1980, much of the time by 300 basis points. Some critics of this historical approach complain that the rule (1) plot does not show the values that would have obtained if the rule had been followed. That is true; to

predict these would require adoption of some specific model and a simulation. But the plot clearly indicates a policy that will generate inflation.

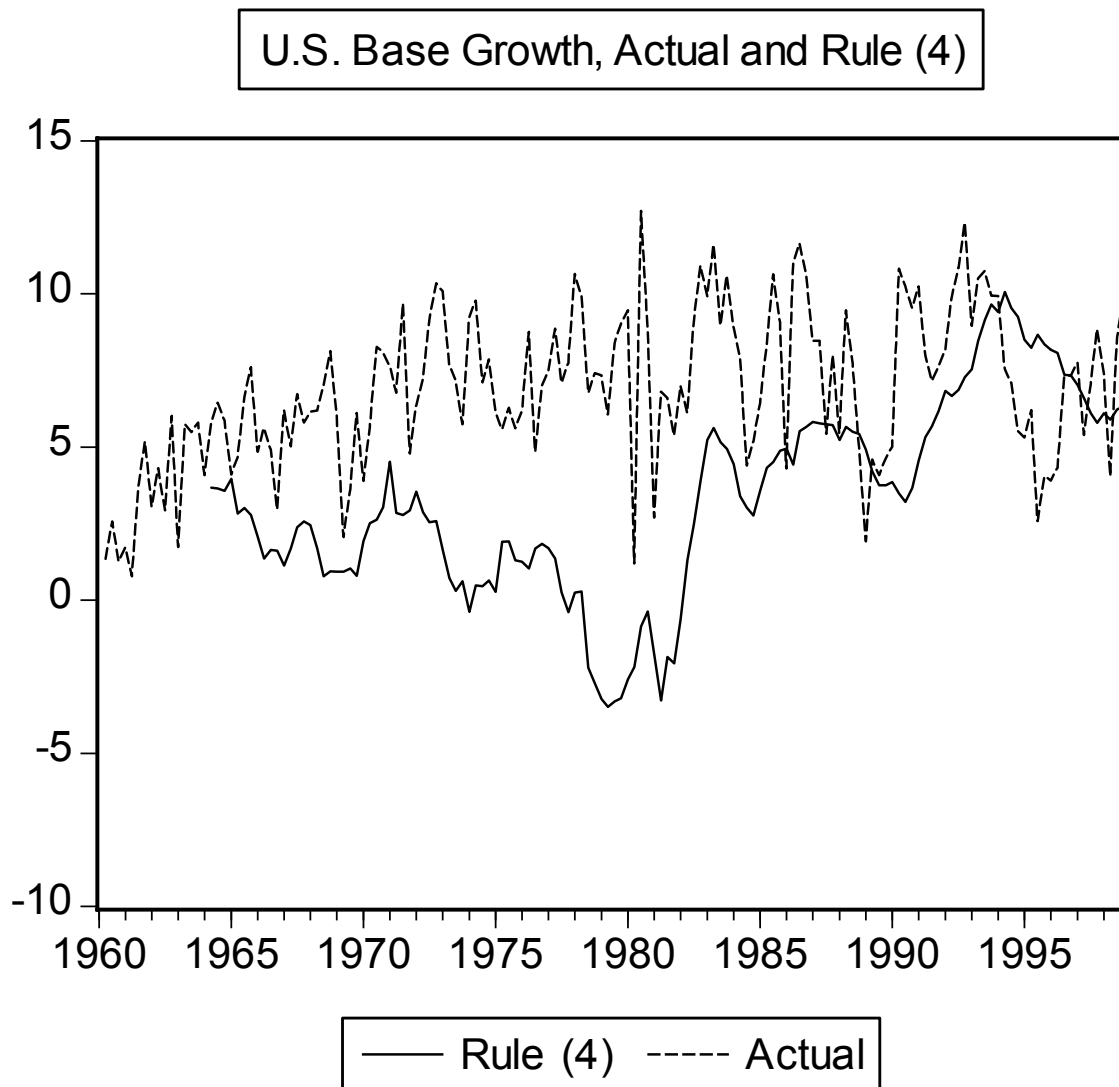
Next, let's look at an analogous plot for rule (2), with base-growth instrument and GDP-growth target. Here actual base growth is higher than specified by the rule continuously over 1961-1980. Units are comparable, so the message is even stronger.

Figure 2 U.S. Base Growth, Actual and Rule (2)



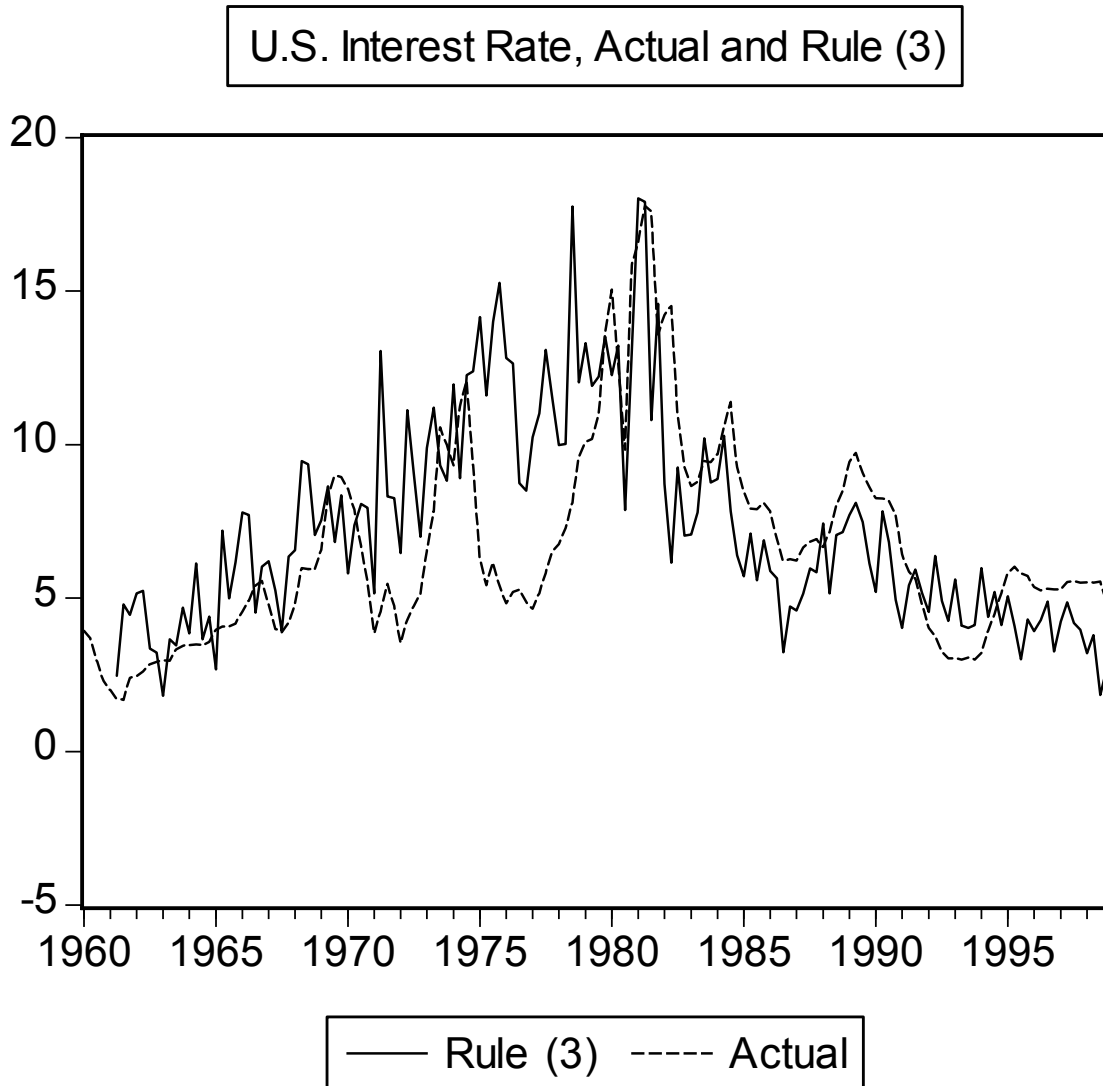
In the next graph, Figure 3, I use the base-growth instrument and the Taylor-style target variable. Again the plot's message is stronger than with rule (1) while the rule's instrument setting is less choppy.

Figure 3



In Figure 4, we consider the interest rate instrument and Δx_t target variable. This rule would not have signaled inflationary policy over 1972-74.

Figure 4



In the foregoing four-way comparison, the clearest signals come from the two rules with base-growth instruments. Is it counterintuitive that the instrument variable would appear more important than the target variable? My interpretation is that different instruments require different auxiliary assumptions: a constant value for \bar{r} in R_t rules as compared with use of Δv_t^a as an implicit forecast of future Δv_t in Δb_t rules.

In any event, I certainly agree with Levin and Taylor's punch line, that "the likelihood of a recurrence of inflation—or other serious policy mistakes—can be best minimized by the use of simple rules as benchmarks for the conduct of monetary policy."

References

- Broaddus, A., and M. Goodfriend, "Base Drift and the Longer Run M1 Growth Rate: Experience from a Decade of Monetary Targeting," Federal Reserve Bank of Richmond Economic Review 70, Nov.-Dec. 1984, 3-14.
- Clarida, R., J. Gali, and M. Gertler, "Monetary Policy Rules and Macroeconomic Stability: Evidence and Some Theory," Quarterly Journal of Economics 115(1), February 2000, 147-180.
- McCallum, B. T., "Alternative Monetary Policy Rules: A Comparison with Historical Settings for the United States, the United Kingdom, and Japan," Federal Reserve Bank of Richmond Economic Quarterly 86(1), Winter 2000, 49-79.
- _____, "Multiple-Solution Indeterminacies in Monetary Policy Analysis," Journal of Monetary Economics 50(5), July 2003, 1153-1175.
- _____, "Monetarism," in D. R. Henderson (editor), The Concise Encyclopedia of Economics, 2nd.ed. Liberty Fund, Inc., Indianapolis, 2008.
- Taylor, J. B., "A Historical Analysis of Monetary Policy Rules," in J.B. Taylor (editor), Monetary Policy Rules, University of Chicago Press for National Bureau of Economic Research, Chicago, 1999.