West, Kenneth D. 1986. Targeting nominal income: A note. *The Economic Journal* 96 (December): 1077–83.

Comment

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This is a thoughtful and sensible paper. It makes an important, and policy relevant, contribution to our understanding of how nominal income targeting might affect the U.S. economy. But its conclusion in section 2.5 that "nominal income targeting is . . . a reasonably good rule for the conduct of monetary policy" is, in my view, premature.

Let me begin by reviewing what Hall and Mankiw have done. They have a two-equation model. Let p_t be the price level, y_t output, y_t^N the natural rate of output, $x_t = p_t + y_t$ nominal income. One equation is a Phillips curve,

$$\Delta p_t - \pi = \lambda(\Delta p_{t-1} - \pi) + \alpha(y_t - y_t^N) + \nu_t.$$

The second equation is a nominal income rule:

$$\begin{aligned}
\text{level rule: } x_t &= \mu t + (x_t - E_{t-4}x_t) \\
&= \mu t + \varepsilon_t, \\
\varepsilon_t &= \text{MA(3) error in consensus forecast;} \\
\text{growth rule: } x_t - x_{t-4} &= \mu + \varepsilon_t; \\
\text{hybrid rule: } x_t - x_{t-4} &= \mu + \varepsilon_t + (y_{t-4} - y_{t-4}^N).
\end{aligned}$$

Hall and Mankiw also experiment with eight- instead of four-quarter rules.

Given time series for y_t^N, ν_t, and ε_t (computed from the actual data, and assumed not to change from simulation to simulation), the Phillips curve and the nominal income rule are two equations in the two unknowns p_t and y_t. In each simulation, the constant π in the Phillips curve is adjusted so that the average value of $y_t - y_t^N$ is zero.

It seems to me that the hypothetical nominal income policies do not fare particularly well relative to actual policy. Tables 2.3 and 2.4 indicate that when actual forecast errors are used, the growth and level policies invariably yield higher standard deviations for the output gap and output growth rates than the actual policy did. While the hybrid policy generally does better than the actual on these measures of output volatility, it exploits information that would not be available if the Fed were trying to follow such a rule, in that it uses the final, revised, and rebenchmarked figures for y_t and y_t^N. Whether use of data actually

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available would make much difference I do not know; the fact that it might make a difference suggests caution.

All the hypothetical policies tend to do better on volatility of inflation and remarkably better on price-level volatility. For the latter, it is important to note that this is true essentially by assumption. In all the simulations, the mean rate of nominal income growth is fixed at 2.5 percent, the mean rate of output growth to that actually observed in the sample. This fixes the mean rate of inflation; one can see from figures 2.3 to 2.5 that this implied rate is such that there is essentially zero (in fact, slightly negative) inflation over the period. Since prices have a marked trend in the actual data, and essentially no trend in the simulations, the standard deviation is much larger in the actual than in the simulated data.

Of course, a basic advantage of a nominal income rule is that it may yield stable prices; as the authors note, there are well-known reasons why discretion tends to lead to inflation. But this is not necessarily an argument for a nominal income rule rather than a price or inflation or money-growth rule, or, for that matter, an old-fashioned textbook rule that aims to minimize a weighted sum of inflation and/or price and/or output volatilities. Indeed, the class of nominal income rules considered seems to me to be inefficient in the sense defined by Hall and Mankiw in section 2.1. Suppose for concreteness that one cares about the variability of inflation and of output growth, and considers the nominal income growth rule. This rule minimizes the variance of the sum of inflation and output growth, a variance that depends in part on the covariance between inflation and output growth. In conventional models, one can get lower variability of both inflation *and* output growth by ignoring the covariance term.

It is possible that rules that yield substantial efficiency gains relative to nominal income rules will be so complicated that holding the Fed accountable to the theoretically preferable rules will be difficult in practice. But an analysis of the trade-off between efficiency and accountability remains to be done. To take just one example, why not target not the consensus forecast of nominal income, but a weighted sum of the consensus forecasts of real output and the price level, the weight reflecting the relative cost of output and price variability?

This is the sort of question I would like to see answered before I conclude that nominal income targeting is a reasonably good rule.