

# The Taylor rule

@econcortex

2026-09-22

## Abstract

Taylor's 1993 formula, what each term means, and why a simple rule described Fed policy so well.

In 1993 John Taylor proposed a rule that has since become the reference point for every discussion of the interest-rate stance. He did not claim central banks should follow it mechanically; the point was to show that a simple formula tracked the Federal Reserve's actual decisions between 1987 and 1992 remarkably well, and that it could serve as a benchmark for judging policy (Taylor, 1993).

## The rule

In Taylor's notation the federal funds rate  $r$  is set as

$$r = p + 0.5y + 0.5(p - 2) + 2, \quad (1)$$

where  $p$  is inflation over the previous four quarters and  $y$  is the percentage deviation of real GDP from its trend. Two constants are hidden in the formula: an inflation target of 2 percent and an equilibrium real interest rate of 2 percent. Taylor chose both as round numbers that fitted the period; he did not derive them.

It is clearer to write the rule with the constants named. With the nominal policy rate  $i_t$ , inflation  $\pi_t$ , the inflation target  $\pi^*$ , the equilibrium real rate  $r^*$  and the output gap  $x_t$ :

$$i_t = r^* + \pi_t + \phi_\pi(\pi_t - \pi^*) + \phi_x x_t, \quad \phi_\pi = \phi_x = 0.5. \quad (2)$$

**Definition 1** (Reading the rule). The first two terms,  $r^* + \pi_t$ , are the nominal rate that keeps the *real* rate at its equilibrium value when inflation is at target. The third term raises the rate when inflation exceeds the target, the fourth when output is above potential. With  $\phi_\pi = 0.5$  the total response of the nominal rate to inflation is  $1 + \phi_\pi = 1.5$ : a one-point rise in inflation raises the nominal rate by 1.5 points and therefore the real rate by 0.5 points.

That last observation is the *Taylor principle*, the subject of The Taylor principle and determinacy. Here it is enough to note that the rule reacts to inflation *more than one for one*, so the real rate leans against inflation rather than accommodating it.

## A worked example

Suppose inflation is running at 4 percent, the output gap is  $-1$  percent, and  $r^* = \pi^* = 2$ . Then

$$i = 2 + 4 + 0.5(4 - 2) + 0.5(-1) = 6.5 \text{ percent.}$$

Inflation two points above target adds one point; a mild recession subtracts half a point. Compare the case of inflation at target and a closed gap:  $i = 4$  percent, which is just  $r^* + \pi^*$ , the *neutral* nominal rate.

## What made the rule persuasive

- **It is transparent.** Anyone with two published series can compute the prescription and compare it with the actual rate. This turned the abstract case for rules from Why rules? Time inconsistency and the case for commitment into something operational.
- **It fitted.** Taylor showed that the prescription tracked the funds rate closely over 1987–1992, with the deviations explainable by events such as the 1987 stock market crash (Taylor, 1993).
- **It is robust.** Later work found that rules of this form perform well across a range of models, even when they are not optimal in any single one (Taylor, 1999).

## What the rule leaves open

Every ingredient except the current policy rate is measured with error or has to be estimated: which inflation index, which measure of potential output, and above all what  $r^*$  is. Lessons The natural rate of interest and Real-time data and the Taylor rule show that these choices change the prescription by percentage points, not decimals. The rule is a benchmark, not an oracle.

Taylor, J. B. (1993). Discretion versus policy rules in practice. *Carnegie-Rochester Conference Series on Public Policy*, 39, 195–214. [https://doi.org/10.1016/0167-2231\(93\)90009-L](https://doi.org/10.1016/0167-2231(93)90009-L)

Taylor, J. B. (1999). A historical analysis of monetary policy rules. In J. B. Taylor (Ed.), *Monetary policy rules* (pp. 319–341). University of Chicago Press.