

Measuring the policy stance

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Abstract

Real rate gaps, shadow rates at the lower bound, and financial conditions: three ways to answer “is policy tight?”

“Is policy tight?” sounds like a question with a number for an answer. It is not; it is a comparison, and the answer depends on what the policy rate is compared with. This lesson sets out the three comparisons in common use and what each hides.

The real rate gap

The most direct measure follows from The natural rate of interest. Define the stance as the gap between the real policy rate and the natural rate:

$$s_t = (i_t - \pi_t^e) - r_t^*. \quad (1)$$

Positive s_t is restrictive, negative is accommodative. Three choices hide inside the formula.

- **Which inflation expectation.** Surveys, market-implied break-evens and the central bank’s own forecast can differ by a percentage point at turning points. Realised inflation is a poor substitute because it is backward-looking, which is why the Taylor rule’s use of past inflation is a simplification, not a recommendation.
- **Which r^* .** As the previous lesson showed, estimates carry uncertainty of the same order as the stance itself.
- **Which horizon.** A short-run natural rate that has fallen after a demand shock can make an unchanged policy rate restrictive even though nothing about the central bank has changed.

A useful discipline is to report s_t for a *range* of r^* values rather than a point, and to say which inflation measure was used.

The Taylor-rule deviation

An alternative compares the policy rate with a rule prescription rather than with r^* alone:

$$d_t = i_t - i_t^{\text{rule}}. \quad (2)$$

This folds in the output gap and the inflation gap, so it answers “is policy tight *relative to the state of the economy?*” rather than “is the real rate above neutral?”. A negative d_t during a boom is a stronger statement than a negative s_t . The cost is that d_t inherits every choice from Variants of the Taylor rule: with the balanced-approach rule and a large negative gap the deviation can flip sign relative to the 1993 rule.

At the lower bound: shadow rates

From 2009 to 2015 in the United States, and for longer in the euro area, Japan and Switzerland, the policy rate sat at or near its effective lower bound while central banks eased further through asset purchases and forward guidance. The policy rate stopped measuring the stance.

A **shadow rate** is the short rate that would be consistent with the observed yield curve if the lower bound did not exist. Krippner and, separately, Wu and Xia estimated shadow-rate term structure models in which the observed short rate is the maximum of a latent shadow rate and the lower bound (Krippner, 2013; Wu & Xia, 2016). When the latent rate is deep in negative territory, long yields are lower than they would be with the short rate at zero, and the model reads the difference as additional easing. The Wu–Xia estimate for the United States fell to roughly minus three percent in 2014 before rising as the Fed signalled and then began normalisation (Wu & Xia, 2016).

Definition 1 (Shadow rate). The latent short-term rate $\tilde{i}_t$ in a model where the observed rate is $i_t = \max(\tilde{i}_t, \underline{i})$ and the yield curve is priced off the shadow rate. Below the bound, $\tilde{i}_t$ summarises the easing delivered by unconventional tools in policy-rate units.

Shadow rates are model-dependent: different bound values and different numbers of factors give estimates that disagree by a percentage point or more. They are best read as a direction and an order of magnitude.

Financial conditions

The third approach skips the policy rate and asks what borrowers actually face. A **financial conditions index** combines mortgage and corporate bond rates, equity prices, the exchange rate and credit spreads into one series, weighted by their estimated effect on activity. The logic is that policy works through these channels, so measuring them directly captures transmission as well as intent. The cost is symmetric: financial conditions move for reasons that have nothing to do with the central bank, and an index can read “loose” while the central bank is tightening, as happened in the United States during much of 2023.

Putting the three together

Measure	Compares the policy rate with	Best for	Blind spot
Real rate gap s_t	the natural rate	medium-run stance	depends on τ^* and π^e
Rule deviation d_t	a Taylor-type prescription	stance given the cycle	depends on the rule’s form
Shadow rate	a yield curve without the lower bound	the lower-bound period	model-dependent
Financial conditions	the rates borrowers face	transmission	moves without the central bank

When the measures agree, the stance is not in doubt. When they disagree, the disagreement itself is the information: it says which assumption the judgment rests on.

Krippner, L. (2013). Measuring the stance of monetary policy in zero lower bound environments. *Economics Letters*, 118(1), 135–138. <https://doi.org/10.1016/j.econlet.2012.10.011>

Wu, J. C., & Xia, F. D. (2016). Measuring the macroeconomic impact of monetary policy at the zero lower bound. *Journal of Money, Credit and Banking*, 48(2-3), 253–291. <https://doi.org/10.1111/jmcb.12300>