

[Price Gaps and Inflation Dynamics](#)

CFM-DP2026-23

Miguel Bandeira^{2,4}, Laura Castillo-Martínez^{1,3} and Shiyuan Wang⁵

¹Centre for Economic Policy Research, ²Centre For Macroeconomics, ³Duke University,

⁴Inspier, ⁵University of Minnesota

The surge and retreat of post-Covid inflation has renewed interest in the non-linear dynamics of price adjustment. Menu cost models are the natural framework for thinking about them: firms tolerate some price misalignment due to adjustment costs, and how many of them adjust in response to a given shock is endogenous. The literature has mostly focused on one dimension of this non-linearity, shock size, showing that large shocks generate disproportionate price responses. But these models feature a second dimension that has received less attention, the state of the economy when the shock arrives. This is captured by the cross-sectional distribution of price gaps: the misalignment between firms' actual and reset prices. We study how this distribution shapes inflation dynamics.

Our starting point is a random menu cost model, in which we characterize the price gap distribution as a source of state dependence shaping shock propagation, optimal policy, and future inflation. Its empirical counterpart is, however, unobserved; constructing it is the main contribution of this paper. To do so, we recast the pricing dynamics in state-space form and develop Bayesian methods to estimate latent reset prices from observed price trajectories. Applying this methodology to UK consumer price microdata covering 1996 to 2026, we document that the gap distribution varies substantially over time, with the economy spending extended periods far from its ergodic benchmark.

We exploit this variation to test the model's state-dependence predictions. When shocks arrive, the distribution determines how hard they hit: monetary policy pass-through varies substantially with the pre-shock gap distribution. At the two-year horizon, the response to a tightening ranges from almost fully dampened to nearly 70 percent amplified relative to a benchmark distribution. We find the same qualitative state dependence in the pass-through of oil-price shocks. Absent new shocks, the price gap distribution contains information about where inflation is headed: gap moments predict future inflation beyond current inflation and other macroeconomic variables, and improve out-of-sample forecasts relative to a random-walk benchmark, with gains reaching 37 percent at two years.

