Monetary Policy & Anchored Expectations An Endogenous Gain Learning Model

**Abstract**

This paper analyzes optimal monetary policy in a behavioral model where expectation formation is characterized by potential anchoring of expectations. Expectations are anchored when in an adaptive learning setting, the private sector chooses a decreasing learning gain. Within the con- text of an otherwise standard macro model with nominal rigidities and natural-rate and cost-push shocks, I find that the anchoring mechanism introduces two new intertemporal tradeoffs: a sta- bilization and a volatility tradeoff. Optimal policy is thus time-varying in two ways. First, the anchoring expectation formation allows the central bank to postpone current intratemporal trade- offs to the future. Second, while concerns for stabilization lead the central bank to seek to anchor expectations in the long run, getting them anchored is costlier the more current expectations are unanchored. Therefore optimal policy involves an aggressive interest rate response to any threat of expectations unanchoring. As my estimate of the anchoring function shows, forecast errors over 1 percentage point are sufficient to unanchor expectations. For this reason, the bank raises the inter- est rate by 8.77 pp for a positive forecast error of 1 pp. While the optimal policy improves social welfare substantially, even switching to anchoring-model-specific optimal Taylor-rule coefficients achieves a reduction in volatility cost of about 20%.

**What does optimal monetary policy look like when inflationary expectations are subject to possible anchoring, that is, when long run expectations become entrenched and resistant to new information? And what complications ensue if anchors are subject to abandonment via learning? Anchoring has for quite some time loomed large in the stated concerns of central bankers. Yet formal treatment of optimal monetary policy in the face of anchoring has been scarce. I find that anchoring presents subtle tradeoffs for the central bank. An anchor consistent with inflationary targets provides a cushion that encourages laxity and procrastination. But threats to the anchor can spur decisive interest rate responses. My estimate of the anchoring function shows that a forecast error of 1 percentage point triggers a dramatic (8.8 percentage point) interest rate adjustment and substantially increases social welfare. Wrapping anchoring considerations into a Taylor rule leads to muted, but still substantial, welfare gains. My results suggest a significant role for anchoring in understanding central bank behavior and optimal policy.**