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Inflation scares and forecast-based monetary policy

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Abstract

Central bankers frequently emphasize the critical importance of anchoring private inflation expectations for successful monetary policy and macroeconomic stabilization. In most monetary policy models, however, expectations are already anchored through the assumption of rational expectations and perfect knowledge of the economy. In this paper, we reexamine the role of inflation expectations by positing, instead, that agents have imperfect knowledge of the precise structure of the economy and policymakers' preferences, and rely on a perpetual learning technology to form expectations. We find that with learning, disturbances can give rise to endogenous inflation scares, that is, significant and persistent deviations of inflation expectations from those implied by rational expectations, even at long horizons. The presence of learning increases the sensitivity of inflation expectations and the term structure of interest rates to economic shocks, in line with the empirical evidence. We also explore the role of private inflation expectations for the conduct of efficient monetary policy. Under rational expectations, inflation expectations equal a linear combination of macroeconomic variables and as such provide no additional information to the policy maker. In contrast, under learning, private inflation expectations follow a time-varying process and provide useful information for the conduct of monetary policy.
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1. Introduction

Central bankers frequently emphasize the importance of anchoring inflation expectations for successful monetary policy. For example, as Federal Reserve Chairman Greenspan observed in May 2001:

> "We have often pointed before to the essential role that low inflation expectations play in containing price pressures and promoting growth. Any evident tendency in financial markets or in household and business attitudes for such expectations to trend higher would need to factor importantly into our policy decisions" (Greenspan, 2001).

When private inflation expectations become unmoored from the central bank's objectives—episodes that Goodfriend (1993) characterizes as "inflation scares"—macroeconomic stabilization can suffer. Such episodes are easily identified in the monetary history of the United States and other nations. Following the experience with high and volatile inflation in the 1970s, Federal Reserve Chairman Paul Volcker identified the problem of anchoring inflation expectations as crucial for policy success, noting that: "With all its built-in momentum and self-sustaining expectations, [the inflationary process] has come to have a life of its own" (Volcker, 1980). Given these concerns, central banks regularly monitor and analyze information regarding inflation expectations reflected in surveys or financial markets.[1]

Relative to the attention that central bankers place on private inflation expectations, there has been comparatively little research that focuses on how these expectations could become unmoored from policymakers' objectives and the types of monetary policies that might mitigate this problem. Two explanations of how private inflation expectations could become unmoored have received attention in the literature. In one, promoted by Clarida et al. (2000) in their analysis of Federal Reserve policy in the 1970s, the central bank's policy fails to satisfy the "Taylor principle" according to which the central bank raises real interest rates when inflation rises above target and vice versa. Under those conditions, inflation expectations are not anchored and may move independently of economic fundamentals. In the second, the central bank's inflation target is assumed to change from time to time and private agents only gradually recognize these shifts (see Bomfim et al., 1997; Kozicki and Tinsley, 2001a, 2001b; and Erceg and Levin, 2003). According to these explanations, anchoring inflation expectations should be straightforward in practice, and requires only that the central bank hold to a constant long-run inflation target and satisfy a basic stability condition. Once these conditions have been fulfilled, presumably central banks would no longer need to be so concerned with private inflation expectations.

One potential source of this apparent disconnect between the weight central bankers place on inflation expectations and the conclusion of policy evaluations conducted in the

[1] In addition, central bank internal forecasts are at the center of policy deliberations at inflation-targeting central banks and have arguably been equally important for policy decisions in noninflation-targeting central banks such as the Federal Reserve and the European Central Bank. There is a large literature evaluating the usefulness of internal forecasts for policy (see Levin et al., 2003 and references therein); our focus in this paper is on the formation of private inflation forecasts and their usefulness for policymaking.