

Inflation Expectations, the Phillips Curve, and Monetary Policy

Michael Kiley¹

¹Division of Research and Statistics, Federal Reserve Board

June 10, 2008

- Inflation expectations play a central role in models of the Phillips curve and may reflect the credibility of a monetary authority's commitment to price stability.
- I will discuss
 - The evolving treatment of inflation expectations in empirical Phillips curve models
 - Three recent models of information imperfections and inflation expectations
 - Central bank behavior and inflation expectations

Inflation Expectations in the Phillips Curve

- The Phillips curve has come a long way
 - The dominant paradigm in 1970 was adaptive expectations
 - A series of papers by Robert Lucas and others emphasized the importance of rational expectations
- Two reactions
 - Specify tightly parameterized models (with nominal rigidities) that imply restrictions on a system of equations that allow identification (Taylor (1980), Rotemberg (1982))
 - Look for empirical techniques that imposed fewer restrictions on the data (Sims (1980))
- Both approaches have borne fruit, but the former is central in many structural models used in policy analysis (e.g., Edge, Kiley, and Laforce (2007, 2008a,b,c))

Inflation Expectations in the Phillips Curve

- But (our understanding of) the Phillips curve still has long way to go
 - Empirical work with structural Phillips curves has been dominated by “strong-form” rational expectations and continues to (sometimes) include arguably ad hoc elements (e.g., Kiley (2007))
 - Research has increasingly emphasized a range of information imperfections that relax rational expectations
- Some sort of information imperfection is needed because
 - Inflation responds sluggishly to (some) disturbances (e.g., Christiano, Eichenbaum, and Evans (2000))
 - The costs of disinflation are sizable (e.g., Ball (1994))
 - The Phillips curve seem to want both leads and lags of inflation (Fuhrer and Moore (1995), Kiley (2007))

Models of Imperfect Information

- Imperfections that have been the subject of some research include
 - Learning about the structure of the economy (e.g., Orphanides and Williams (2005, 2007))
 - Imperfect information regarding the goals (or credibility) of the central bank (e.g., Ball (1995), Bomfim et al (1997), Erceg and Levin (2003), Kiley (2008))
 - Costs or constraints on information acquisition or processing (Caballero (1989?), Kiley (2000, 2007), Carroll (2003), Reis (2006a, 2006b), Sims (1998, 2003, 2006))
- The third example of information imperfections, emphasizing costs of information acquisition or processing, gives rise to differences in information sets across agents as emphasized in Lucas (1972, 1973)

Imperfect Information about Central Bank Intentions

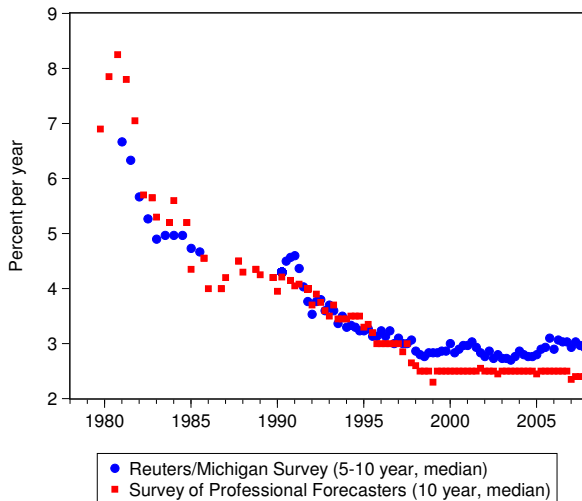
- The idea behind models emphasizing imperfect information regarding the inflation objective is simple:
 - When the inflation objective is not widely known, households and firms will need to infer it from its policy actions;
 - As a result, agents make persistent mistakes regarding the inflation objective during a transition period after a shift
- This idea seems plausible. It can explain
 - The costs of the Volcker disinflation (e.g., Erceg and Levin (2003))
 - The slow evolution of survey measures of long-run inflation expectations (Kiley (2008))

Imperfect Information from Costs or Constraints

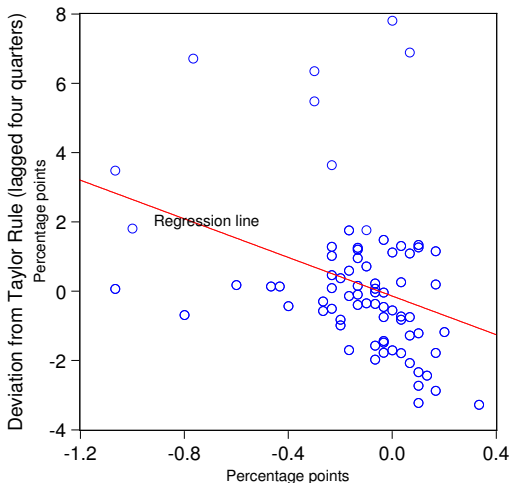
- Information processing constraints (e.g., Sims (1998, 2003, 2006)) may explain sluggish adjustment in many contexts, including inflation
 - But these models are very complex
 - Is information processing the (important) cost? Or the costs of computations?
- Sluggish adjustment in inflation and expectations likely reflects other factors as well
 - Kiley (2000) showed that information and menu costs had different implications and the data like menu costs
 - Some wages and prices are sticky in nominal terms

- Models emphasizing the role of information from the central bank in inflation expectations help explain several empirical regularities
 - Slow adjustment of long-run inflation expectations and cost of disinflation (Kiley (2008))
 - Uncertainty about inflation and dispersion in inflation expectations across countries (Gurkaynak et al (2006), Beechey et al (2007))
 - Uncertainty about long-run inflation and variation in the slope of the term structure across time and countries (Wright (2008))

Long-run Inflation Expectations and Central Bank Actions



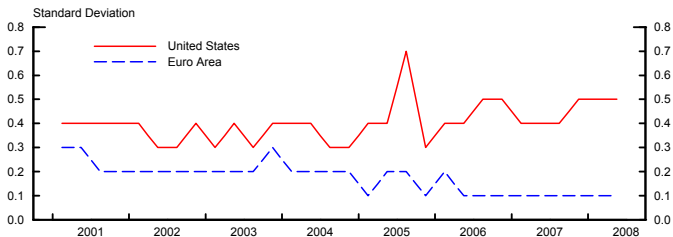
Long-run Inflation Expectations and Central Bank Actions



Four-Quarter Change in Long-run Expectation (Reuters/Michigan Survey, median)

Dispersion in Inflation Expectations and An Explicit Inflation Objective

Figure 2
Cross-Sectional Dispersion in Long-Run Inflation Expectations



Operational Independence and Nominal Term Premia

