

# The Interaction of Policy and Outcomes



## Coordinating Price Information

The fact that the public must learn about underlying economic relationships changes the nature of the optimal monetary policy. . . . [A] central bank should work actively to "anchor" inflation expectations within a narrow range. . . . [E]fficient policy in this world requires that policymakers pay attention to information (for example, from surveys) about the public's expectations of inflation and other variables; if these appear not to be converging toward the desired levels, then a policy response may be warranted.

Ben S. Bernanke (2004: 5-6)

The central theme of this book is that a macroeconomic policymaker's role is to conduct policy in such a way as to enhance the public's ability to coordinate its information, expectations, and economic activities. Our view is that policy actions that facilitate the public's coordination capability are essential for ensuring a stable and predictable framework for



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the rules that govern social and economic interaction. When policymakers encourage coordination, one of the primary consequences is efficient macroeconomic outcomes, the full employment of resources with price stability.<sup>1</sup>

There are several ideas, some prescriptive, some purely academic, that provide a foundation for this theme. First is the necessity for coordination. We use the term *coordination* to define the actions a person or persons take to interpret and order streams of information (primarily political and economic) and to use that information in making their economic plans.

We define the *full employment of resources* as a situation in which output equals its natural rate. The term *natural rate* has been used in reference to unemployment (Friedman 1968). The natural rate of unemployment level is the long-term equilibrium unemployment level. Inflation is constant at this level of unemployment. In this book we also refer to the "natural (potential) rate" of output.

Price or inflation stability can be defined as the achievement of a prespecified inflation target (see Goodhart and Viñals 1994) or when citizens no longer account for actual or prospective inflation in their decision making (Volcker and Gyothen 1992). Svensson (1999) has offered a more technical distinction between price *level* stability and price stability (low and stable inflation). Price level stability implies stationarity around a deterministic trend, whereas price stability implies a nonstationary price level (such as base drift – the presence of a unit root). Because our focus is on low and stable inflation (assumed when using inflation targets), we use the term *inflation stability* in the text.



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A second idea is that coordination involves strategic interaction between policymakers and the public. This interaction can be conflictual. However, the emphasis in this book is on the policymaker and public interactions that include alternative factors, such as confidence, credibility, expectations, and learning, and how these interactions influence macroeconomic outcomes (Cooper and John 1988; Cooper 1999).

The third idea is that there are significant obstacles to public coordination, such as information asymmetries (Akerlof 1970) and the slow diffusion of information (Mankiw and Reis 2002). In the face of such obstacles, our task is to examine how, in a decentralized market setting, firms, households, and labor coordinate specific knowledge of the information in their immediate circumstances with their imperfect knowledge of their more general surroundings (Hayek 1945; Barro and Grossman 1976; Sowell 1980).

The fourth idea is that policymaker and public coordination is done under the auspices of the price system. In decentralized market economies, the price system can provide the necessary and relevant information to enable firms, households, and labor to devise plans that accurately reflect the signals of economic activity. A significant attribute of the price system is that it enables individuals to economize on



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the necessary and relevant information required to take the right action on economic matters (Groshen and Schweitzer 1996; Blinder 1998: 71–3).

In principle, the information provided by prices should help prevent coordination difficulties. Of course, during a period of inflation, prices lose their effectiveness in conveying information. Price inflation creates noise in the price system (see Friedman 1963). The usual signal that reduces the coordination problem is now blurred. Planning now lacks the accurate expectations it had under inflation stability. The ability to learn the appropriate signal from prices is also delayed (Friedman 1977).

To amplify this issue further, we think that price system distortions, caused by inflation instability, are more than an abstract academic argument. The social and economic costs of inflation instability are significant. Consider that the relation between inflation and output can be separated into both short- and long-term effects. In the short term, inflation can have a positive effect on output. For example, firms have limited information, and thus they make errors about the future prices they expect to receive (relative prices). These errors affect their production decisions. In particular, firms confuse an increase in the general price level (inflation) with an increase in the prices for their own goods (Lucas 1973).



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The confusion between inflation and relative prices leads firms to increase their output above normal. Employment also increases during such periods.

However, this confusion is short-lived. With the passage of time, firms eventually correct their pricing errors and realize that the expected jump in prices was caused by inflation and not by an increase in demand for their own good(s). After having risen for "artificial" reasons, both output and employment now fall.

Along with the short-term volatility, inflation also can have adverse long-term consequences on growth (Fischer 1993, 1996; Andersen and Gruen 1995; Hess and Morris 1996; Judson and Orphanides 1996; Sarel 1996; Barro 1997; Bulman and Simon 2003). The public (firms, households, and labor) is encouraged to turn its attention away from wealth-producing ventures. As inflation rises, more resources are diverted to hedging and to speculation. Interaction with tax rules produces additional difficulties for firms as they manage their balance sheets (Abel 1997; Feldstein 1997). Consequently, capital inputs are reduced, and long-term planning becomes increasingly difficult because of the uncertainty of the real value of the expected future payments. The end result is that inflation reduces the scope and scale of activities that facilitate economic growth.



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We also believe there is a relation between inflation stability and the duration of economic expansions. If we examine the business cycle performance of the United States since 1960, we find an almost continuously sustained expansion in the 1980s and 1990s and a similarly lengthy expansion in the 1960s. Furthermore, consider U.S. business cycle performance since 1982 in comparison to all peacetime expansions recorded since 1854. The average duration for peacetime business expansions since 1854 is 30.5 months. In contrast, the average duration of the two peacetime expansions between 1982 and 2002 was 106 months.<sup>2</sup> Inflation stability also accompanied the two recent long-lasting expansions.<sup>3</sup>

The fifth idea is prescriptive and concerns the role of policymakers in the environment sketched in this introduction.<sup>4</sup>

<sup>&</sup>lt;sup>2</sup> See http://www.nber.org/cycles.html.

<sup>&</sup>lt;sup>3</sup> Since 1854, the three longest economic expansions, peacetime or otherwise, coincided with inflation stability.

<sup>&</sup>lt;sup>4</sup> Real business cycle (RBC) theory (see Kydland and Prescott 1982 and Long and Plosser 1983) provides an alternative perspective on short-term economic fluctuations. A central RBC argument is that nonmonetary factors, such as technological shocks, changes in government expenditures, and variations of tax rates, are the real disturbances behind business cycles. Further, RBC models typically assume that markets always clear and that real variables are independent of nominal variables. This approach leaves little or no role for countercyclical policy. Because we argue that coordinating effects of policy are important, we note only that the



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Pervasive uncertainty about policy contributes to these adverse short- and long-term economic outcomes. In the face of this economic uncertainty, a policymaker's role is clear and imperative. We argue that policymakers should act to ensure that the price system works and that the coordinating function of prices is maintained. There is only one way to do this: policymakers must take policy actions that ensure inflation stability. In achieving inflation stability, policymakers provide a clear "inflation target," and this gives notice to

RBC approach has made important contributions, but the lack of emphasis on countercyclical policy requires that we rely on an alternative modeling and theoretical approach. For an overview and critique of the RBC approach see Hansen and Heckman (1996), Kydland and Prescott (1996), Sheffrin (1989), and Sims (1996).

- <sup>5</sup> We recognize the potential importance of policymaker rhetoric and public statements (see Kohn and Sack 2003 and Kuttner and Posen 1999). However, our specific focus is on policymaker actions.
- <sup>6</sup> Bernanke et al. (1999) define inflation targeting as "a framework for monetary policy characterized by the public announcement of official quantitative targets (or target ranges) for the inflation rate over one or more time horizons, and by explicit acknowledgement that low, stable inflation is monetary policy's primary long-run goal" (p. 4).

Note the use of the word *framework*, a term used by Friedman (1948). The term implies that policymakers will commit in advance to general objectives, but with flexibility in action on how to counteract specific contingencies (i.e., events) that may deviate from the objectives (Bernanke et al. 1999: 6).



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the public that will steer and then anchor its expectations<sup>7</sup> (Leiderman and Svensson 1995; Bruno and Easterly 1998; Bernanke et al. 1999).

In general, what we argue for is a policymaker role that is similar in spirit to that advocated by Friedman (1948) and Lucas (1980). Policymaker discretion is limited to a specific set of variables and relations that Lucas notes are "well-understood and empirically substantiated propositions of monetary economics" and that are known to assist "in providing a stable, predictable environment for the private sector of the economy" (p. 210).

As a consequence, the traditional stabilization policymaker role, in which a policymaker manages aggregate demand, usually to stimulate output and employment (Keynes

In related work, Leiderman and Svensson (1995) characterize an inflation target regime, in part, as "an explicit quantitative inflation target (specifying the index, the target level, the tolerance interval, the time frame, and possibly situations under which the inflation target will be modified or disregarded). Sometimes the inflation target has been announced jointly by the monetary and fiscal authorities, sometimes by the monetary authority alone" (p. 1). Leiderman and Svensson also note that a secondary characteristic of inflation targeting is the absence of an intermediate target for both monetary aggregates and exchange rates.

See Goodfriend (1993) on the "inflation scare" – autonomous upward revisions in inflation expectations (reflected in increases in long-term interest rates) – problem.



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1936), is now refined. Our view is that this traditional emphasis has led to policy errors by overstimulating the economy and by adding unnecessary noise in the signals that prices provide and that they are expected to provide. The point is not to ignore aggregate demand (output and employment) or deflationary concerns,<sup>8</sup> but instead to make inflation stability an implicit or explicit target (goal) for policy actions.

## 1.1 Features of the Book

There are several distinctive features of this study. One is the analytical and technical approach. We merge formal analysis directly with empirical tests and actual data. In the same spirit as Friedman (1957) and Lucas (1973), we

<sup>8</sup> An IMF report (2003) noted that "there have been few sustained deflationary episodes in the post–Second World War period in the major economies" (p. 15).

We do not discount the possibility of a deflation. However, much of the harmful effects of a deflation occur when it is unanticipated (Fisher 1933). We contend that unanticipated deflation (or inflation) is extremely unlikely when a policymaker consistently achieves an inflation target (implicit or explicit) and thereby steers public expectations and plans. For an alternative view that emphasizes price rigidities in the adjustment process, see Akerlof et al. (1996).