

Commentary

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Keynes (1936) was right to emphasize that the investors’ expectations have a paramount effect on the evolution of the national economy. Indeed, an important part of the role of the financial services sector in a modern economy is to try to forecast how the central bank will react to macroeconomic shocks, and any Wall Street economist worth his or her salt has a rule of thumb—a model drawn perhaps from some collective economic unconscious—that predicts how the Federal Open Market Committee will react to a bad inflation number or to a high unemployment figure. The high priest of the caste of economic forecasters—the Carl Jung of Wall Street economists—is John Taylor, whose elegant description (1993) of the Fed’s putative policy rule has become a workhorse for modern macroeconomic analysis.

The essence of a simple version of Taylor’s rule is that the Fed should raise nominal interest rates sharply if there is bad inflation news. This is the crux of how the Fed builds “credibility” in financial markets. Whenever there is a bad inflation number, the market is faced with a quandary: Is this a sign that the Fed is loosening monetary policy, or is it a signal that the Fed will tighten future interest rates to cool down a national economy that is perhaps overheated? Once investors have assimilated Taylor’s “activist” policy rule, the market will react to an inflation shock assuming (correctly) that the Federal Open Market Committee is serious about maintaining low inflation.

An important added benefit is that the Fed itself will know how the market will react to rising nominal interest rates, and this knowledge cuts through the Gordian knot of higher-order expectations that Keynes first described in his famous passage on financial markets as beauty contests in chapter 12 of *The General Theory*. The Fed no longer needs to guess how investors will act in response to their own forecasts of the Fed’s prediction of how private markets will divine the latest news about how a member of the Federal Open Market Committee might react to her staff’s using the newest (public) inflation number to make a forecast of the national economy in the next quarter! The right kind of Taylor rule makes it easier for the central bank to maintain *both* low inflation and full employment because there is a built-in stability in market expectations.¹

This observation is the essence of the first of the three themes that Azariadis and Lam explore. In a wide class of macroeconomic models, there

¹ The reader should not think that this line of reasoning about the role of endogenous expectations is just a theoretical curiozum; Duffy and Fisher (2005) show that these ideas have real empirical bite.

is a fundamental indeterminacy in the set of perfect foresight equilibria. The nominal values of monetary variables are not tied down, and this fact can have unpleasant consequences for monetary and fiscal policy. In fact, there are typically many different inefficient equilibria, and it would be an improvement in the sense of Pareto if somehow all of these suboptimal equilibria were eliminated. Azariadis and Lam emphasize that a simple Taylor rule based upon past inflation suffices to insure that the unique perfect foresight equilibrium is the best one possible.

Azariadis and Lam's second theme has to do with the distributional effects of inflation. They actually study a model in which some agents are born poor and others are born rich. Since there is no bequest motive, each unborn soul faces idiosyncratic risk about where she will fall in the grand scheme of all things economic.² Think of a Rawlsian All Souls' Convention where every agent who will ever be born meets outside of time and behind a veil of ignorance. Since everyone is in a symmetric situation, not knowing whether he or she will be born poor or rich, there is a unique steady-state inflation rate—and concomitant uniform lump-sum transfer of seignorage—that maximizes the expected well-being of every ignorant soul. This policy of moderate inflation has the strong philosophical benefit that it would be adopted unanimously against any other inflation rate in a vote of pair-wise policies at the All Souls' Convention.

Azariadis and Lam's third theme builds on recent work by Dixit and Lambertini (2003). There is an important earlier literature that assumes a passive fiscal policy and then explores the effects of monetary policy using applied game theory, but Dixit and Lambertini make the important observation that the existence of independent fiscal and monetary authorities makes it necessary to model the strategic interaction between the two. Having worked at both the Federal Reserve Board and the Treasury, I know that Dixit and Lambertini's basic insight captures an important aspect of the reality of macroeconomic policy in the United States.

Azariadis and Lam explore this idea within their model. Using a simplified version of their basic model, the authors assume a benevolent monetary authority whose policy preferences actually coincide with those of the representative household. They also assume that the fiscal authority is less patient than the monetary authority; this assumption captures an important aspect of representative democracies in which elected officials typically serve

² Azariadis and Lam plausibly rule out the first-best policy of a 100% income tax that is redistributed in lump-sum equally among all agents, rich and poor. The political implications of such a policy in our world surely outweigh its theoretical benefits in this model's stylized universe.

shorter terms than an appointed governor of the central bank. The upshot of this assumption is that the Nash equilibrium of the game played by the fiscal and monetary authorities has too much inflation *and* too much government spending. Thus, Azariadis and Lam extend Dixit and Lambertini's ideas from a static Keynesian framework to a dynamic general equilibrium model.

In sum, Azariadis and Lam have given the reader a macroeconomic symphony in three movements. The theme of the first movement is that a simple backward-looking policy rule for nominal interest rates removes the generic indeterminacy that plagues many models of monetary economies. The second movement is an allegro divertimento describing why moderate rates of inflation may help in a world with incomplete markets and idiosyncratic risks to individual incomes. The theme of the third movement is that the interplay between the independent monetary and fiscal authorities—so much a part of the political economy of any modern industrialized country—gives rise to an inflation rate that is too high and also to too much public spending. The power of a symphony is to make harmony from otherwise discordant voices, and it is a pleasure to see how these authors blend these three themes in a dynamic macroeconomic model.

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