

Interest and Prices: Foundations of a Theory of Monetary Policy

Michael Woodford

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The title of Michael Woodford's book is not an accidental echoing of the 1898 work by the great Swedish economist Knut Wicksell. In fact, the book begins with a quotation from Wicksell's earlier work that contends that perfect price stability, in conjunction with free microeconomic price movements, is the optimal policy for governments to attempt to achieve through their central banks. Today, this contention has become the generally accepted rationale for central bank policy around the world and most central banks use Wicksell's interest rate approach to achieve price stability rather than the quantity approach favored by Irving Fisher. Such a rules-based approach to policy is discussed at length in the first part of Woodford's book and taken up again at its end.

Woodford argues that "banks around the world have committed themselves more explicitly to relatively straightforward objectives with regard

to the control of inflation, and have found when they do so that not only is it easier to control inflation than previous experience might have suggested, but that price stability creates a sound basis for real economic performance as well” (p. 2). This description is an accurate one, and reflective of modern central banks’ general desire for their rules-based policies to be both understood and accepted by their respective publics.

But committing oneself as a central bank to pursue a policy of price stability is one thing; having an idea of exactly how to accomplish it is something else entirely. Over time, this issue has been theoretically and empirically explored at great length. Should central banks attempt to control interest rates? Or to control the quantity of money? They cannot do both things simultaneously. And on what basis are policy changes to be made so that the public both understands and accepts those policy decisions? The slowly emerging consensus seems to be that price stability—defined as controlling the *rate* of inflation—is the preferred policy option, best pursued (just as Wicksell suggested) through interest-rate targeting. The distinction between controlling the *rate* of inflation rather than the price index itself is crucial, as is the rules-based approach that is now generally followed by the world’s major central banks.

The key difference in approaches to inflation targeting is between pursuing a stable, long-run price level and maintaining a particular rate of inflation growth. A commitment to the former would mean deflating after a supply shock to return the index to its previous level, while the latter entails adjusting to the rate of growth of inflation long-term and stabilizing the rate rather than the price level. Both approaches would be rules-based, but very different in application and result.

The debate about rate stability in the presence of shocks versus appropriate numeric targets—and their correct definition—has recently reached the Federal Reserve. During the mid-1990s, Janet Yellen, a former Fed board of governors member who is now president of the San Francisco Fed, wanted to explicitly define the numeric targets at which Fed policy was allegedly aimed even though she had previously testified before Congress against inflation targeting. Today, the district bank presidents and the Washington board members are divided over whether to set specific numeric targets. (Alan Greenspan opposes targets.) Other nations—such as Canada, New Zealand, Britain—and the European Central Bank use such numeric targets.

After Greenspan departs, this issue will probably be resolved, but the question of exactly how remains, at best, uncertain. Greenspan is a strong supporter of the pursuit of price stability, however he wishes to define it. During remarks in October 2004 at the St. Louis Fed, Greenspan sounded triumphant: “It is now generally recognized that price stability is a prerequisite for the efficient allocation of resources in our economy and, indeed, for fulfilling our ultimate mandate to promote maximum sustainable employment over time.”

Woodford's recommendations regarding central bank policy are refreshingly commonsensical: he favors a rules-based regime that is characterized by commitment, transparency, and clear communication. Although Woodford cites Wicksell's interest rate rule as being effective at price-level stabilization, he opts instead for a rule that allows the price level to change over time ("base drift") while stabilizing the *rate* of inflation. Woodford begins with Wicksell's cashless economy, though deviating slightly from Wicksell, and then systematically builds a new Keynesian model of a closed macroeconomy characterized by nominally sticky prices and rational expectations. Following Milton Friedman's 1969 classic, *The Optimum Quantity of Money*, Woodford views central bank policy as an exercise in optimization for microagents—a utility maximizing procedure for the households whose activities create the macroeconomy in the first place. In this analysis, macropolicy should be seen as an ongoing welfare maximization problem.

Any monetary policy prescriptions must deal with two macro ideas that have influenced the theoretical understanding of this topic for many years: the so-called Lucas critique, and the time inconsistency problem first discussed by Kydland and Prescott (1977), and then by Barro and Gordon (1983). Any model that assumes rational expectations is squarely in Lucas territory, and any bank that commits to a policy rule faces a potential time inconsistency problem. The combination of attempting to predict relationship stability in the face of changing expectations (Lucas) and possibly going back on commitments made under different conditions (Kydland-Prescott) both suggest a troubling, potentially pro-inflation future policy bias. It is entirely possible that no central bank will ever be able to successfully implement an optimal, dynamic policy rule given the extreme difficulties such an undertaking entails. (Woodford's definition of time inconsistency is somewhat different from the Kydland-Prescott definition.)

Woodford carefully builds the model of his choice one chapter at a time, beginning with the second (where exchange takes place without cash), then on through chapter five where he creates a rational expectations/sticky price model based on Calvo (1983). By the time readers have reached chapter four, the model has become, in Woodford's opinion, neo-Wicksellian since it utilizes a natural rate framework. Chapter four is especially important as Woodford relaxes the rational expectations assumption and allows monetary changes to influence the real economy. Chapter five includes a discussion of adaptive learning dynamics that, Woodford claims, supports Wicksell's recommendation to increase interest rates when prices rise and decrease rates when prices fall. The chapter concludes with interesting discussions of real-balance effects and liquidity traps, Ricardian equivalence, and the role of fiscal policy in generating inflation.

The final three chapters pull everything together and present optimal monetary policy rules in light of various kinds of shocks and offer a defense of price stability as the major policy goal. This material will be of

special interest for those who share concerns expressed by writers such as F. A. Hayek that price stabilization is, at best, a problematic policy because it distorts the intertemporal, microprice adjustments that are crucial for a market economy. By the end of this treatise, almost every approach to monetary policy—including the Taylor Rule and inflation forecasting rules—has been examined and a successful integration of welfare theory and monetary policy has been achieved. In this regard, Woodford more than fulfills his chosen tasks.

There is always some disconnect between theory and reality. In practice, central banks are more complex, and often more politically driven, than the hypothetical banks in models that seek long-run price stability regardless of—or sometimes in response to—external circumstances. A rules-based approach makes many people happy because it seems to eliminate discretionary central bank policy. After all, we might believe it is all very simple: select the monetary rule and follow it. The idea is appealing, especially for Americans who traditionally have feared and tried to control purely discretionary, state-driven actions. And empirically, it is true that modern central banks around the world seem to agree with this basic idea, although not all of them think they are doing neo-Wicksellian interest-rate targeting. But most do agree, in principle, that price stability should be a guiding norm. The future will show us how committed central banks are to monetary policy rules. Will central bankers adhere to a rules-based approach to monetary policy when temporal conditions change?

This book is a splendid achievement and should be essential reading for economists as well as policymakers. It is clearly written, generally balanced, and always informative. It has been some time since a single work generated as much interest and praise as this book, a culmination of 20 years of effort by one of our most respected contemporary macro theorists.

Robert Formaini
Federal Reserve Bank of Dallas¹

References

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¹The opinions expressed in this review are solely those of the author.