MACROECONOMIC POLICY, CREDIBILITY, AND POLITICS BY TORSTEN PERSSON AND GUIDO TABELLINI*

David Rosenblatt**

Macroeconomic Policy, Credibility and Politics is meant to serve as a graduate textbook and literature survey of the recent advances in modelling government economic policy making. It is extremely successful in achieving both goals, unifying many of the different approaches to endogenizing government policy, one of the most active areas of macroeconomic theorizing in recent years. In addition to summarizing this literature, the "monograph," as the authors call it, presents some new results.

Before the emergence of this new literature, the policymaker was treated like "a machine," in the authors' words, that could be simply "programmed." One would model how the economy would respond to any exogenously determined values of the policy variables, and one would then calculate the optimal policy rules. The new approach assumes that the policymaker is a "rational and maximizing agent, or collection of agents, who respond to incentives and constraints just like the rest of the economy." The authors note that one can describe the new approach in terms of the principal-agent problem, where the many principals are the public, and the agent is the government. Some of the various articles in the literature analyze how the principals, acting in their "political role," impose political constraints on the government's policy decision, while other articles examine how the principals, acting in their "economic role," impose credibility constraints on the policy decision.

The monograph is organized in two parts: the first part analyzes monetary policy, and the second part looks at fiscal policy, more specifically the problems of wealth taxation and the accumulation of government debt. For economists unfamiliar with the literature who

*Macroeconomic Policy, Credibility, and Politics by Torsten Persson and Guido Tabellini Volume 38 of Fundamentals of Pure and Applied Economics, Harwood Academic Publishers, Chur, Switzerland, 1990

**Ph.D. Candidate at the University of California, Berkeley

want to get a brief introduction to the general approach to modelling both credibility and political constraints, chapters one and five should be adequate. Chapter 1 presents the basic intuition of the credibility problem in monetary policy and wealth taxation, and Chapter 5 presents models of joint political and economic equilibria. The rest of the book is organized as follows.

Chapter 2 begins with a more detailed model of the credibility problem in monetary policy, also referred to as the time inconsistency or dynamic inconsistency of monetary policy in the pioneering works (of Kydland and Prescott 1977 and Calvo 1978). In the standard model, private sector behavior is summarized by an expectations augmented Phillip's curve. The government's objective is to minimize a loss function that depends upon inflation and deviations in employment from the desired level of employment. If we start from a point with zero inflation and employment below its desired level, and if the government has only one policy instrument, namely, monetary policy, then the government responds to an irresistible temptation to use

"surprise" inflation in an attempt to drive down real wages and increase employment. In Nash equilibrium , however, the public foresees this response, and as a result, adjusts its inflationary expectations, and hence, nominal wages accordingly.

The end result is a policy failure: increased inflation and no improvement in employment. One way to avoid this futile inflationary tendency would be to create some sort of "commitment technology" whereby the government would be forced to adhere to preannounced policy rules. The rest of chapter 2 examines institutional reforms — like increased central bank independence, secrecy of policy targets, and the use of "policy targets with escape clauses — as possible near substitutes for a "commitment technology."

Chapters 3 and 4 examine the possibility that reputation can serve as a substitute for a "commitment technology." Given that monetary policy is carried out over a number of periods, there is an additional cost associated with attempts to use "surprise" inflation, namely, that an inflationary policy today might induce increased inflationary expectations in the future. Depending upon the time horizon and the government's discount factor, this cost might restrict government use of "surprise" inflation.

In order to model this phenomenon, one must use the theory of

repeated games, and one problem encountered in these models, as usual, is the existence of multiple equilibria. The basic results from chapter 3: in a finite horizon model, for certain values of the discount value, there exists a Nash equilibrium in which there is zero inflation every period except the last period, during which inflation is equal to the equilibrium level of the one-shot game. The only "sequentially rational" Nash equilibrium, however, is the positive inflation rate of the one-shot game in every period. The same results hold, but with additional complications,[1] for the infinite period game.

Chapter 4's approach to reputation removes the assumption that there is complete information on the part of the public about the government's objective function. More specifically, the public does not know with certainty the government's preferences with regards to the employment-inflation trade-off. The government is either a "tough" type or a "weak" type — tough or weak in combatting inflation. The authors then set up a signalling game in which there exist incentives, in some equilibria, for government to pursue a low inflation policy in order to show it is a "tough" type.

In chapter 5, as mentioned above, the focus shifts to modelling the political constraint to macroeconomic policy. There exists an extensive literature in political science on the so-called "political business cycle": the idea that policymakers fool the electorate on a regular basis by inflating the economy immediately prior to an election. It is easy to explain this phenomenon by assuming irrational, "backward looking" voters.

In chapter 5, however, Persson and Tabellini present a model, based on the ideas of several other authors, that assumes rational forward-looking voting behavior, but achieves political-business cycles in equilibrium. The trick is to set up a signalling model in which voters have incomplete information with regards to the competence of the incumbent candidate and the competence of his opponent. The voters receive a noisy signal with regards to the incumbent's competence and no signal at all with regards to the opponent's competence. The electorate votes using this signal to make an estimate of the candidates' relative competence. Other models in chapter 5 show how

[1] For example, in the infinite period case, the agents have to decide on the length of the "punishment" period for enforcing the zero inflation equilibrium in other periods.

elections where candidates have different ideologies can induce counterproductive volatility in policy and how elections can "reinforce" the reputational incentives discussed in chapter 3.

Chapter 6 presents a more detailed discussion of the credibility problem in wealth taxation that is introduced in chapter 1. The basic intuition of the problem for the case where wealth is stored in the form of physical capital is as follows. Assume a two-period world in which private agents make their savings and investment decision in the first period and a labor supply decision in the second period.[2] If there were a "commitment technology, the government in the first period would set income and capital tax rates to equate the marginal distortion of the last dollar levied on each tax base (the Ramsey Rule).

In the absence of a commitment technology, the government has an *ex post* incentive to finance all its second period revenue requirements via the capital tax. This is because once the private sector's decision to save is made in the first period, the capital tax becomes the equivalent of a lump sum tax: it is too late for the tax to have any distortionary impact on savings behavior. The public, understanding this incentive constraint, adjusts its first period investment/savings decision, reducing its holdings of capital along the standard Laffer curve. If the government's revenue requirements are high enough, one reaches a disastrous equilibrium: zero savings and a capital tax in which the government attempts to appropriate the entire capital stock. Chapter 6 also presents two different models with the same basic intuition: one in which the private sector stores its savings (wealth) in the form of money and one in which wealth is held in government bonds.

Chapters 7 through 9 discuss additional credibility and political constraints to fiscal policy, in particular government debt accumulation. The chapters continue in the same basic style of modelling with additional contemporary techniques like overlapping generations models. For example, chapter 7 uses an overlapping generations model to show how a type of "social contract" can be formed between generations, thus sustaining a "reputational equilibrium" that relaxes the credibility constraint to capital taxation described above.

[2]A labor supply decision in both periods would not change the results of the model.

In these chapters, the degree of complexity of the models increases; however, the patient reader will find then worth studying.

Finally, chapter 10 presents some concluding comments and directions for future research. The authors note that of particular importance is future research on understanding the details of political institutions: "Maybe the most important single issue for future research is how political institutions enable society to commit its future course of action. In the language of this monograph, can political constraints help relax binding credibility constraints?" With a substantial number of talented young theorists already working in this research area, there will certainly be some interesting results emerging in the next couple of years.

A closing comment: given the accelerating pace of theoretical research in economics, it is extremely useful to have "monographs" like *Macroeconomic Policy, Credibility, and Politics* to organize and synthesize a contemporary research area, making it accessible to economists who do not specialize in that particular research area. There should be more monographs of this type, and hopefully the quality of the entire series *Fundamentals of Pure and Applied Economics* will reach the level achieved by Persson and Tabellini.

References

Calvo, G. 1978. "On the time consistency of optimal policy in a monetary economy." *Econometrica* **46**: 1411-1428.

Kydland, F. & Prescott, E. 1977. "Rules rather than discretion: the inconsistency of optimal plans." *Journal of Political Economy* **85**: 473-490.