Competing Commitments: Technocracy and Democracy in the Design of Monetary Institutions

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Some years ago, the noted economist Jan Tinbergen proposed a theory of the optimum regime.[1] The optimum regime is a bundle of institutions designed to maximize social welfare. Politicians, according to Tinbergen, produce "doctrinal deviations" from this regime. Citizens therefore should defer to "economic thinkers," social scientists who are "less emotional" and clearer headed than their elected officials. While the struggle between economists and politicians might take some time to resolve and the actual makeup of the optimal institutions may vary slightly from country to country, Tinbergen was confident that eventually all countries would converge on this regime. In the minds of some observers, the recent reforms in central bank institutions and current trend towards the liberalization of national economies show that this convergence is occurring.[2]

This special issue of *IO* is, in a sense, an extension of this work, but an extension that treats politics much more seriously than Tinbergen. The contributors are expressly concerned with institutional design, especially the design of two monetary institutions: the degrees of central bank independence and exchange-rate commitment. Their analyses explicitly incorporate political variables. For them, the key to understanding the origins and consequences of today's monetary institutions lies in the interplay of political and economic forces. Their investigations differ in the extent to which the welfare implications of institutional designs are implicit or explicit. Some authors emphasize more the motivations of politicians and less the macroeconomic consequences of their policies.[3] Others focus on the impacts of

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1. Tinbergen 1959, 1963, and 1972.

2. For a presentation and critique of ideas of convergence in institutional choice, see such works as Ellman 1980.

3. See Bernhard and Leblang 2002b; Clark 2002; and Hallerberg 2002.

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alternative institutional designs on inflation, growth, and competitiveness.[4] Together, the articles show not only that political institutions must be incorporated in any monetary regime, but also that this choice is best made on the basis of a careful analysis of the motives and strategies of *both* politicians and economic agents.

This special issue represents a significant advance over the more interpretive and heuristic studies of the 1970s and 1980s. Much deeper insights into the politics of institutional design are revealed within these contributions. The articles offer an explanation of why elites choose a combination of central bank independence and exchange-rate policy and why certain political institutions are chosen along with these combinations. In this sense, this special issue produces a much more complete and politically informed characterization of monetary regimes than Tinbergen and others could have imagined. The pieces by Lawrence Broz, Philip Keefer and David Stasavage, and Mark Hallerberg are noteworthy because they explain the rationale for and design of *democratic* institutions that must accompany monetary commitments. In addition, the articles explain some of the welfare consequences of regime choice, especially with respect to prices.

The normative significance of this special issue lies in its results concerning the macroeconomic consequences of regime choice and in the larger implications of its results for democratic politics. The articles are valuable additions to the debate about the "room to maneuver" that remains for governments in advanced democracies—the degree to which officials in one country can choose a distinctive mix of welfare outcomes for their citizens.[5] But the main purpose of this issue is to inform the choice of monetary institutions. In this respect, the articles' significance lies in their support for monetary technocracy. The authors show how democracy can be designed to create and protect monetary authority, authority based on benign technical expertise rather than electoral manipulation. In this sense, the volume is a valuable extension of Tinbergen's theory.[6]

In this article, I refine and expand the agenda for this project. First, I evaluate the analyses and research designs in the other articles. Out of this evaluation, I identify ideas about how to produce a "third generation" of research on this topic. Specifically, I consider how to broaden the welfare criteria on which institutional choices are made, deepen the political analyses on which the choice of institutions are based, and strengthen the tests that are offered in support of these choices. I explore the questions of how and whether popular sovereignty over economic policy and institutional choice is achieved in the second part of the article. This part shows that the regimes proposed in the special issue are, in a sense, democratic as long as the public's "perceived consensus" about economic policies and macroeconomic out-

4. See Broz 2002; Frieden 2002; and Keefer and Stasavage 2002.

5. For example, see Garrett 1998; and Rodrik 1997 and 2000.

6. For a definition of technocracy as a distinct subgroup of bureaucracy that enjoys autonomy and operates with a policy paradigm based on instrumental rationality, see Centeno 1993. While the contributors to this special issue do not advocate a single, optimum regime, most are supportive of democratically supervised, "independent" central banks.

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comes is real. However, if, as new work suggests, there is genuine dissensus about policy and macroeconomic objectives, it is no longer clear that the regimes are democratic. This leads, in my conclusion, to a brief discussion of the possibility of a crisis of imagination in institutional design.

Advancing the Research Program

Important facts and questions motivate this special issue. Foremost among the facts are recent episodes of central bank reform in such countries as the United Kingdom, New Zealand, and Italy. Less emphasized is the fact that there have been few reversals in central bank independence. In fact, the contributors do not discuss any episodes in which authorities have reneged on their decisions to make central banks more independent. This suggests that the arrangements these authors describe are designed to prevent reversals. To the believers in an optimum regime, this is evidence of enlightened convergence on central bank independence.[7]

But the questions that motivate the volume are more complex. The authors seek to understand why central bank independence is chosen in combination with (1) a particular kind of exchange rate commitment and (2) a set of expressly political institutions—institutions that help enforce the choice of monetary commitment technologies.[8] The implication is that the political institutions are essential parts of the bundle of institutions that make up the most preferred regime. Put another way, in any optimum regime, nondemocratic institutions such as central banks must be combined with democratic institutions such as legislatures and elections.

The articles are based on common understandings about the workings of the economy and polity.[9] The former includes what in economics is called the neoclassical model of inflation and the time inconsistency of optimal plans. These essentially are the bases for seeking monetary commitment technologies.[10] The Mundell-Fleming conditions for open economies are also important. The presump-

7. One explanation for the absence of reversals in central bank independence is that monetary authorities make necessary policy changes whenever the threat of such reversals arise (Stasavage, personal communication). But it is surprising that such changes are always adequate to head off reversals.

8. Especially Broz 2002; Hallerberg 2002; and Keefer and Stasavage 2002.

9. The investigations are clearly rooted in what political scientists might call a neoliberal perspective. The need for government intervention in markets and the existence of genuine (intragenerational) distributional conflicts are taken as a given. Politics is equated with struggles over the intragenerational distribution of wealth—struggles among groups not classes. See Bernhard, Broz, and Clark 2002; Frieden 2002; and Hallerberg 2002. Politicians are motivated by the desire to remain in office and, in one case at least, enhance the growth rate of real income rather than (un)consciously serve any class interests. Bernhard and Leblang 2002. The optimum regime is discovered by elites apparently through some dialogue with these self-interested politicians. An example of the tendency to equate politics with distributional struggles is Hallerberg's argument that "an independent central bank is a device to assure that explicit political manipulation of the money supply does not occur." Hallerberg 2002, 775. My conception of liberal (classical and neoliberal) approaches as distinct from so-called radical approaches to political economy can be found in Freeman 1989a, chap. 2. See also fn. 35.

10. Bernhard, Broz, and Clark 2002.

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tion is that capital mobility now is a given, so there are really only two choices available to countries: monetary autonomy or fixed exchange rates.[11] Again, the question is which of these two alternatives is preferable *and* which political institutions best support this choice.

As for democracy, the papers are rooted in conventional understandings about the workings of the respective institutions. The contributors share common understandings of the workings of majoritarian versus consensual government, federalism, interest group politics, the separation of powers, and other political institutions. For example, Hallerberg and Keefer and Stasavage invoke familiar unidimensional spatial reasoning to explain the power that veto players exert.[12] "Transparency" is among the ideas that bind the articles together in this regard. This is the notion that democratic politics is an inherently effective means of revealing information, especially about rent-seeking. Democracy's virtue lies mainly in its ability to reveal elected officials' attempts to tamper with the authority of what are benign monetary authorities.[13] The challenge is to design democracy so that transparency is enhanced and, at the same time, the defenders of central bank independence and of the chosen exchange-rate policy have effective veto power over any attempts to renege on monetary commitments.

How can this research be advanced still further? On what questions and issues should the "third generation" of studies focus? In the following section, I consider these questions.

Toward a Better Interdisciplinary Synthesis

Work in this genre would benefit from incorporating additional ideas from economics. For example, studies of exchange-rate politics should employ more explicitly what we know about the way exchange rates adjust to policy changes, for example, the so-called *J*-curve. Politicians can exploit delays in adjustment to produce cycles of overvaluation.[14] Also, we know that the effects of fiscal policy are diminished in open versus closed economies. This is because some increases in spending eventually "leak out" of the economy in the form of imports. Whereas, in some respects, fiscal policy may be a more effective electoral tool than monetary policy,[15] its effectiveness in this regard may diminish as countries' economies become more and

11. Clark 2002; see also Rodrik 2000. The omission of capital controls is one reason the volume emphasizes choices for developed rather than emerging democracies.

12. See Hallerberg 2002; and Keefer and Stasavage 2002. This is the now-standard "setter model" developed by Weingast and Moran 1983 and elaborated on by Ferejohn and Shipan 1989 and 1990, among others.

13. See Broz 2002; and Keefer and Stasavage 2002.

14. van der Ploeg 1989.

15. Clark 2002.

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more open to international trade and financial flows. Such features of open economies should be incorporated in future analyses of institutional design.[16]

Economic research on expectational mechanisms and information processing is equally important. This special issue draws from the research on central bank behavior in only the most general sense. Few authors take up the challenge of analyzing the "expectational mechanisms"[17] that govern the relations among economic agents, political agents, and monetary policymakers. In fact, some, like William Clark, treat expectations as "exogenous."[18] Yet it is these mechanisms that lie at the heart of the causal relationships that determine the behavioral and welfare implications of regime choice. This includes the effectiveness of central bank reforms vis-à-vis inflationary outcomes. We must learn more about how politics is related to these expectational mechanisms and about the associated reputational equilibria. For instance, Robert Barro and David Gordon show that the discount rate of the monetary authority is a key parameter in its decision rule and hence in determining the type of equilibrium that is established between the monetary authority and private agents. Future research should be devoted to analyzing how this discount rate depends on the workings of democratic institutions.[19]

New work in information economics potentially is quite important for the study of monetary institutions. This research addresses the question of whether it is socially beneficial to have public institutions such as central banks publish the results of their analyses (forecasts); if private agents have more precise information of the same kind, dissemination of public information, under some conditions, can be socially harmful.[20] But, in a recent study, Stasavage argues that, in fact, "central bank transparency"—the practice of central banks publishing their forecasts of money demand—reduces the costs of disinflation, especially if governments are Left or Center in their partisanship.[21] This practice helps private agents learn the disposition of central banks (as well as of what presumably are less inflation-averse politicians). In turn, it is easier for these agents to make quicker and less costly adjustments to disinflationary policies. Smaller output and job losses therefore are observed. In this way, central bank transparency can be a beneficial complement to political transparency.

16. Frieden 2002 alludes to the *J*-curve and to van der Ploeg's 1989 research. But Frieden's model is so aggregated, cross-sectionally and temporally, that he is unable to offer many insights into the respective political-economic processes.

17. Barro and Gordon 1983a and 1983b.

18. Clark 2002.

19. Barro and Gordon's work, 1983a and 1983b, is most influential in this special issue as well as in parallel works such as Iverson 1998 and 1999. Barro and Gordon offer rich models of the processes whereby expectations are formed by private agents about monetary policy, policymakers choose decision rules, and reputational equilibria of various kinds emerge. On the importance of the discount rates of central banks and political actors in determining certain kinds of (reputational) equilibria, see the companion piece by Keefer and Stasavage 2000, especially page 2 and fn. 8.

20. Morris and Shin 2001.

21. Stasavage 2001.

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This line of research also raises some interesting questions about political transparency, however. Specifically, do the results from information economics extend to *political information*? For example, is it beneficial for governments and (or) private firms to publish poll results in the runups to elections? Interestingly, because of its presumed impact on financial markets, the Taiwanese government recently placed restrictions on just this kind of public information.[22] This suggests that, in some circumstances, this aspect of political transparency might not be desirable. Simply put, the welfare consequences of the dissemination of *political information*—especially information about the electoral prospects of parties—must be addressed.[23]

Finally, economists have devoted much time and energy to studying the properties of financial time-series such as exchange rates. They have found, among other things, that these series exhibit nonstationary (non-constant means), episodes of volatility that tend to cluster together and extreme events that occur much more often than one would expect if the series were normally distributed.[24] They also have found that these series display "break points"; the properties of exchange-rate and other series vary across in different eras.[25] These essentially experimental results are the basis for the efficient market hypothesis (EMH) and other important economic ideas.

Empirical work on the politics of monetary institutions and on international political economy in general must be better informed by this branch of economics. So that we can use standard statistical distribution in our hypothesis tests, we must check our political and economic series to determine if they are stationary. If our series contain unit roots, standard statistical tests may be inappropriate. Also, indications of nonstationarity may mean that the political and economic processes we are studying share "common trends." The simple functional forms we use in our regression models may be inaccurate; more complex functional forms called "error correction models" may be required to capture the relationships between political and economic series. Tests for kurtosis (non-normality of residuals) often are used to determine if there are multiple, political-economic equilibria or, literally, if more than one model is needed to explain the series. Empirical economics suggests that

22. Lin and Roberts 2001.

23. Morris and Shin 2001 argue that when they have better information than private agents, the dissemination of information by public institutions like central banks can be welfare-enhancing. Unfortunately, they make no distinction between economic and political information. In relation to the arguments advanced by Morris and Shin 2001, Stasavage (personal communication) contends that private agents do not have good information about future money demand; the U.S. Federal Reserve and other central banks produce better forecasts of future money demand than private forecasters. Therefore, Morris and Shin's results about the beneficial effects of public dissemination of information apply. The questions are: is the political information in electoral polls and public opinion surveys inherently more imprecise than information about such things as money demand? And, either way, is there reason to believe that private pollsters have better information about future electoral outcomes than public sources of the same information?

24. deVries 1992.

25. See Corporale and Grier 2000; and Garcia and Perron 1996.

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political-economic processes "switch" *continuously* between the two (or more) models. Ignoring high levels of kurtosis (levels greater than three) might lead us to employ a single model when a switching setup with two or models would be appropriate. The result, again, would be mistaken causal inferences. Checking for serial correlation and heteroskedasticity or outliers is commendable.[26] But empirical economics shows that, for exchange rates and other series we often study, disturbance variance is itself time-dependent; these economic series display so-called autoregressive conditional heteroskedasticity (ARCH). Once more, failure to account for ARCH can create inefficiency and mistaken inference in hypothesis tests. Finally, our interpretations of results should acknowledge the EMH as it relates to the processing not just of economic information but also of political information.[27]

Analytics

The political analyses in this special issue should be strengthened in several ways. First, multiparty systems loom large in the investigations of several authors. In fact, one of the main lessons of this volume is that multiparty systems produce veto players and government coalition partners that guard the independence of central banks.[28] The analyses of the workings and stability of multiparty systems is somewhat underdeveloped analytically, however. For example, the authors restrict their investigations to a single policy dimension. As Michael Laver and Kenneth Shepsle have shown, multiparty governments are better conceived in terms of multidimensional policy spaces.[29] Strategy and cabinet stability depend on a complex combination of four factors: the spatial location of parties' preferences, policy salience weights, seat distributions, and legislative decision rules. For instance, sometimes parties, by virtue of occupying dimension-by-dimension policy medians, can ensure themselves of membership in a wide range of, if not all feasible, governments. In such circumstances, it is not clear that such parties necessarily prefer to increase their vote share (popularity). Similarly, small parties may be more likely to become members of ruling coalitions if they modify their policy positions slightly or even lose seats. These features of coalition government must be incorporated more fully in the study of veto players and other features of monetary institutions.[30]

26. Frieden 2002, for example.

27. Examples of works that are informed by veins of experimental economics include Bernhard and Leblang 2002a; Freeman, Hays, and Stix 2001; Hays, Freeman, and Nesseth 2001; and Hays, Stix, and Freeman 2001. Bernhard and Leblang 2002a grapple with the way politics and political information affects conditional variance in exchange rates. The Freeman, Hays, Stix, and Nesseth studies analyze the effects of political information on the probability of regime switching in currency and bond markets.

28. See Keefer and Stasavage 2002; Hallerberg 2002; and Bernhard and Leblang 2002b; see also Lohmann 1998a and 1998b.

29. Laver and Shepsle 1996 and 1998.

30. Government durability may be a function of the four factors Laver and Shepsle 1996 and 1998 analyze rather than of regime choice. Or regime choice may be a cause and a consequence of these same factors. Keefer and Stasavage 2002 emphasize the impact the *number* of veto players has on the tendency

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Second, international politics should be incorporated more fully into the analyses. To their credit, a number of contributors acknowledge the role that international political factors play in regime choice.[31] They suggest the decision to peg one's currency to that of another country involves explicit consideration of that other country's bundle of institutions. Of course, this idea is related to the earlier point: the "strength" of inflation-averse parties in the country to which one pegs is a key element of the decision to fix one's own exchange rate. Illustrative is the power that the Christian Democratic Union-Christian Social Union (CDU-CSU) enjoyed in Germany—a country to whose currency several European countries pegged—by virtue of its location at the dimension-by-dimension median of the respective policy space.[32] There also is the matter of central bank cooperation and coordination.[33] The choice of monetary regime surely is both a cause and a consequence of the activities of the epistemic community among central bankers. We must learn more about the understandings and political behavior of this community insofar as regime choice is concerned. Finally, there is the question of regime choice for regional and international institutions. Hallerberg's results help us understand certain institutional features of the European Union (EU).[34] However, none of the contributors teaches us much about how the existence of a regional political regime like that embodied in the EU changes the calculus of the elites who design the regime of a single country. Presumably the knowledge that political integration is under way and that alternative regional regimes are being negotiated between a country and its neighbors changes the expected costs and benefits of monetary commitment technologies.[35]

Third, a more complete set of welfare criteria should be employed in evaluating monetary institutions. This special issue emphasizes the effects of regime choice on inflation; it bases the case for central bank independence and exchange-rate commitment primarily on this desideratum. But citizens also care about other macroeconomic objectives like employment. And, as Bernhard, Broz, and Clark note, the choice of monetary institutions limits governments' abilities to stabilize output and create jobs.[36] Moreover, there is much evidence that, in these respects,

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to reverse monetary commitments. They seem sensitive to the kinds of factors that Laver and Shepsle analyze. But they do not provide any demonstration in the present article that the raw number of veto players necessarily captures the existence of very strong parties and other features of stable cabinets. Cf. Laver and Shepsle 1996, chap. 5. Although they cite Laver and Shepsle's work, Bernhard and Leblang 2002b supply no such microfoundations for their analysis of cabinet durability.

31. See Bernhard, Broz, and Clark 2002; Hallerberg 2002; and Bernhard and Leblang 2002b.
32. Laver and Shepsle 1996, chap. 10.
33. Kapstein 1992 and 1989.
34. Hallerberg 2002.
35. On the institutional design of the EU in relation to that of national regimes, see works such as Iversen 1998; Soskice and Iversen 1998; and Winckler et al. 2000. The radical perspective takes a much different view of why central banks, particularly the U.S. Federal Reserve Bank, are insulated from electoral forces and of the constellation of interests that central banks serve. See, for example, Wade and Veneroso 1998; and Hoogvelt 1997, chap. 7.
36. Bernhard, Broz, and Clark 2002.

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the choice of monetary institutions has different welfare consequences across sectors of the economy. Because of such things as varying ability to "pass through" price changes caused by currency movements, different industries suffer to differing degrees as a result of exchange-rate policies.[37] The study of regime choice must be based on broader (welfare) considerations of these kinds.

This amendation will lead to evaluations of a larger set of institutional arrangements. For example, there is a well-developed argument that job performance hinges on the design of wage-bargaining arrangements. There also is evidence that the abilities of countries to "tie their hands" with exchange-rate pegs[38] depend on the existence of certain kinds of wage bargaining.[39] For these reasons, wage-bargaining institutions must be included in the optimum regime. Ostensibly this means there are three[40] or even six [41] additional options for countries. In all there are conceivably $(3 \times 4 =)12$ or $(6 \times 4 =)24$ different regimes from which to choose. Unfortunately, because it focuses essentially on only two of these choices, the contributors in this special issue cannot yet teach us which is the most preferred of these regimes.[42]

Interestingly, one current theory argues that the optimum regime is clear. Torben Iversen contends that the choice of wage-bargaining institutions is inexorably tied to the choice of monetary institutions, and that, in effect, the choice of the exchange rate institution is linked to wage-bargaining arrangements.[43] The most preferred regime is "decentralized monetarism," which provides for a hard currency policy, non-accommodating monetary authority—namely, a high degree of central bank independence and monetary conservatism—and intermediate wage bargaining. According to Iversen, decentralized monetarism produces the best performance in terms of inflation and unemployment (Table 1). The challenge is to show how the results of the present articles are (in)consistent with those of Iversen and, as explained below, how this special issue's results about the design of democratic institutions complement decentralized monetarism.[44]

37. Frieden 2002.
38. Clark 2002.
39. Hochreiter and Winckler 1995.
40. Iversen 1998 and 1999.
41. See Traxler and Kittel 2000; and Traxler, Blaschke, and Kittel 2001.
42. In a new paper on central bank transparency, Stasavage 2001 analyzes the "sacrifice ratio." This is the number of percentage points of output (employment) lost per policy-induced one-point reduction in inflation. Again, he finds that this kind of transparency reduces the ratio, especially for Left and Center governments. Stasavage finds that wage-bargaining institutions have no impact on this ratio. However, he is quick to point out that the expectations of the respective literature with respect to the costs of disinflation are somewhat ambiguous. Stasavage 2001, 12, 18–19.
43. Iversen 1998 and 1999.
44. Iversen equates wage-bargaining institutions with currency policies, maintaining that the two are highly correlated. Iversen 1999, 10–12, 168. He stresses convergence on one regime in particular, namely, that which provides for a nonaccomodating monetary commitment and intermediate wage bargaining. Using a somewhat different research design than Iversen—for example, different measures for monetary policy and for temporal units—Traxler, Blaschke, and Kittel 2001, 259–74, find support for Iversen's thesis but only for the growth in unit labor costs, not for employment or changes in employment. They find that there is some interactive effects of some of their six bargaining modes with monetary policy on these and other measures of economic performance.

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TABLE 1. *Expanded institutional choices associated with optimum regime based on Iversen's studies (1998, 1999) of wage-bargaining systems*

	Central bank dependence		*Central bank independence*	
Wage-bargaining system	*Hard currency policy*	*Soft currency policy*	*Hard currency policy*	*Soft currency policy*
Decentralized				
Intermediate			Iversen's Optimum Regime	
Centralized				

Note: Traxler, Baschke, and Kittel 2001 suggest that there are actually six different wage-bargaining systems that should be considered; hence there are at least twenty-four possible regimes.

Research Design

The contributors to this issue employ both mathematical and statistical approaches to institutional design. The former are noteworthy for the multiple equilibria they illuminate. These demonstrations help explain the variety of regimes we observe today. As suggested previously, the mathematical analyses should be extended in certain ways. Learning—Bayesian sequential updating—must be more fully incorporated in the setups. For example, the analyses could be enriched to allow citizens (voters) to learn over time about their parties' commitments to certain regimes. Conceivably, such an extension could provide insights into why certain "inflationary biases" in money growth[45] persist longer in some countries than in others (for example, because of differences in the learning capabilities of the respective mass publics). Such learning also could be a source of multiple, reputational equilibria. Barro and Gordon allude to the possibility that over time private agents learn about the preferences of policymakers.[46] They also note that the length of time over which private agents punish policymakers for cheating may be longer than one period or that such punishment might be meted out only "occasionally." These two possibilities may be related: learning about the preferences of monetary authorities and political parties produces extended or sporadic punishment that, in turn, produces multiple, reputational equilibria.[47]

45. Goodhart 2001.
46. Barro and Gordon 1983a and 1983b.
47. Morris and Shin 2001 study binary action coordination games. The importance of multiple equilibria is stressed by Stasavage 2001, 7.

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In many respects the statistical analyses in this volume are sound. For example, the authors are careful to analyze the impact of country outliers in particular and of heteroskedasticity in general on their estimates. But, as noted in my call for a better synthesis with economics, the empirical work on the political economy of monetary institutions can be improved. In addition to incorporating economists' results about the time-series properties of relevant variables, more attention should be paid to measurement issues. For instance, Joseph Gochal recently has shown that, because of Berkson measurement error, the impact of central bank independence on inflation is weaker than previously thought.[48] The use of trends or natural rates is a second important measurement issue. Striving for deeper interdisciplinary syntheses will illuminate the need for temporal decomposition and the measurement of variables relative to natural rates of growth and employment. Most authors in this volume do not build such a conceptual bridge to economics in their measures.[49]

The decisions to use annual or even multiyear averages of variables and to pool country data are understandable.[50] Many authors focus on long-term, macro relationships. However, these decisions have costs. The associated (reduced form) statistical models provide insights only into the average effects of institutions among a given sample of countries.[51] The use of highly temporally economic and political time series destroys information and masks break points; this can lead to mistaken causal inferences.[52] This is especially true where we analyze intermediate variables like exchange rates and money supplies or welfare outcomes like prices. Just as there is value in comparative, historical case studies of central bank creation and reform,[53] there is value in comparative empirical analyses of individual countries at lower levels of temporal aggregation. Carefully designed comparisons of political-economic processes in particular countries can provide quasi-experimental insights into institutional design. When conducted at lower levels of temporal aggregation, we gain better insights into the way expectational mechanisms and reputational equilibria operate as well as into the short- and medium-term consequences of regime choice.[54]

The (reduced form) models in this special issue force economic and political structures of countries into a single, one-way causal functional form. For instance,

48. Gochal 2001.

49. See, however, Stasavage 2001; and Suzuki and Chappell 1995. Also some of the seemingly contradictory evidence about the performance of decentralized monetarist systems may be due to the use of different measures of central bank authority. Cf. Traxler, Baschke, and Kittel 2001, 259ff.

50. Frieden 2002, for example.

51. Meier and Gill 2000.

52. Freeman 1989b.

53. Goodman 1992; and Bernhard 2002.

54. I am much less sanguine than Traxler, Baschke, and Kittel 2001 about the use of multiperiod averages of variables. Ibid., 25. My reading of the time-series literature is that such practices mask causal relationships. Freeman 1989b. Gochal 2001 makes similar arguments about the pitfalls of pooling. He advocates the use of reduced form hierarchical models and a Bayesian Monte Carlo Markov chain approach to gauging (sampling) the coefficients in the respective equations; such a setup is essentially the same as a complex random coefficients model.

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none of the authors allows for causal relationships between variables *within countries*. Several use measures for the average value of variables *among a set of countries* as a shorthand for relationships between variables across national polities and economies. The first practice is indicative of the fact that none of the authors employs even a small-scale simultaneous equation model of the political economy. The second practice might be adequate for smaller countries, but it is likely to introduce biases of various kinds for larger countries like the United States and Germany.[55] In the "third generation" of work on this topic, we must build and analyze more temporally disaggregated, multiequation, reduced-form models for individual countries and (or) for the interconnections between countries' politics and economics. Such models will allow for a richer and more meaningful analysis of the origins and impacts of regime choice.[56]

It also is important to establish the analytical connections between the mathematical and statistical setups in the articles. Stochastic elements must be introduced in the mathematical analyses of commitment technologies, and "microfoundations" must be supplied for the reduced-form models used to study this subject. Such amendations have the potential of yielding fresh insights into the nature and existence of game theoretic equilibria between central bankers and elected officials on the one hand, and of avoiding serious misspecification problems on the other. Thus, for example, in a related paper, Keefer and Stasavage suggest how Robert Franzese's idea of "multiple hands on the wheel" translates, in the context of a separation of powers, into a testable equilibrium inflation pattern on which central bankers, the executive, and the legislature agree.[57]

Extending the mathematical and statistical analyses of monetary institutions in the ways I have indicated will pose challenges. One of these is tractability. Complex, multiequation models can be estimated with maximum likelihood and other familiar methods. However, as the scale of the model increases, the results often become less and less interpretable. Bayesian multivariate time-series approaches therefore may be required.[58] The paucity of cases does make it difficult to study individual

55. The political and economic processes of large countries might be exogenous to those of small countries, but processes of small countries clearly are not exogenous to those of large countries. The second practice therefore probably creates simultaneity biases in the estimates of the respective models.

56. For instance, Frieden 2002 emphasizes the importance of factor mobility and the impact of exchange-rate changes on relative prices across countries. But then, like other contributors, he relies on a pooled, one-way causal statistical setup that treats countries' political economics as independent of one another. Keefer and Stasavage 2002 do address the simultaneity issue. However, it is not clear that their use of the Hausman test is adequate. For examples of the kinds of models I am referring to, see Freeman, Williams, and Lin 1989; Ang and Bakaert 1998; and Sims and Zha 2002.

57. See Keefer and Stasavage 2000; and Franzese 2002. The former study negotiations between central banks, the executive, and the legislator. They show how inflation results from certain equilibria decisions among these three agents in a stylized version of consensual democracy. In this way, they provide some microfoundations for Franzese's work as well as for Broz's 2002 argument about political transparency. The more general importance of joining formal, mathematical, and statistical political science is the goal of the so-called Empirical Implications of Theoretical Models project of the National Science Foundation. Political Science Program 2002.

58. Brandt and Freeman 2002.

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regimes. It is true that, as the number of cells in Table 1 grows, we have fewer and fewer countries we can study to gain insights into the relative virtues of different institutional designs. Computational analyses of artificial political economies are one way to address this problem. This approach has proven useful in economics in such areas as real-business-cycle theory. Recently, examples of similar investigations have appeared in the field of political economy.[59] Less familiar approaches of this kind must be explored to make progress toward sorting out the complex array of institutional choices.[60]

Monetary Technocracy and Democracy

This special issue informs the debates about globalization. It helps us gauge the extent to which alternative institutional arrangements give governments more or less capacity to shape macroeconomic outcomes. In this sense, the articles help characterize one leg of the so-called "political trilemma."[61] But, is this capacity consistent with popular preferences? The fact that certain regimes afford authorities more "room to maneuver" does not mean that society's most preferred blend of welfare—intragenerational and intergenerational—necessarily has been achieved, let alone that it has been achieved in a way that preserves democratic processes and values.[62]

The contributors to this special issue suggest explicitly or implicitly that this capacity is best achieved through monetary technocracy. The articles take as a given the conventional wisdom that democracy is ill suited to the making of monetary policy. The motivations of elected officials are such that they consistently "distort" what would otherwise be "optimal monetary policy" thereby creating unnecessary, harmful levels of inflation, reduced output, etc. For example, elected officials create unnatural macroeconomic fluctuations (cycles) that are socially harmful.[63] As

59. See Freeman and Houser 1998; and Houser and Freeman 2001.

60. For more temporally disaggregated experimental studies of relevant political economic processes, see Bernhard and Leblang 2002a; Freeman, Hays, and Stix 2001; Hays, Freeman, and Nesseth 2001; and Hays, Stix, and Freeman 2001. I am advocating the study of small-scale structural models with rational agents and stochastic elements; calibration and simulation are the main methods used in such an approach. See Freeman and Houser 1998; and Houser and Freeman 2001. This is not the same case study approach discussed by Gochal 2001, 9.

61. Rodrik 2000 proposes a political trilemma akin to the Mundell-Flemming conditions. Rodrik argues that two of the following are possible: the nation-state, internationally integrated national economies, and mass politics (democracy). Since, like the authors in this special issue, Rodrik considers the second condition a given, the choice is between preserving the nation-state and having limited "room to maneuver" and creating world federalism that, with one political jurisdiction, would allow mass politics to have greater impact on the making of economic policy and macroeconomic outcomes. Cf. fn. 87.

62. Intragenerational welfare has to do with the (distribution of) well-being of (within) major age cohorts and, sometimes, all living citizens. The relative well-being of the same cohorts as well as of living and unborn citizens is indicative of intergenerational justice. Gini indices and other income distribution statistics are used to gauge the former, whereas child allowances, social insurance coverage, and long-term growth rates are often used to measure the latter. See Freeman 1989a, especially chap. 6.

63. See Bernhard, Broz, and Clark 2002; and Franzese 2002.

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channels for the expression of popular sovereignty over monetary policy, then, legislatures and other representative institutions are of limited value; at best these institutions provide a means by which the defenders of technocracy—or small groups (veto players) who understand the virtues of technocracy—defend the independence of monetary authorities.[64]

How might this stand be reconciled with a commitment to democratic values and popular sovereignty?[65] One answer is through the idea of "expert democracy." Essentially, this holds that citizens are unable or unwilling to make judgments about complex matters like central bank independence and exchange-rate policy. Citizens willingly defer to benign technocrats to make these decisions. The identities of these technocrats is less important than their scientific training and presumed commitment to the public interest, including the pursuit of the interest of unborn citizens (intergenerational equity). If necessary, oversight is exercised by a small, highly informed segment of the citizenry together with a select group of legislators who periodically appoint and interact with monetary officials.[66]

Unfortunately, as a case for expert democracy, this special issue is underdeveloped. To begin with, the values and understandings of monetary authorities are taken as a given. For some time, political scientists have studied the attitudes and dispositions of bureaucrats.[67] Now it is time to do the same with central bankers. We must know more about how monetary authorities understand the expectational mechanisms and other key features of the *political economy*, how they conceive of social welfare both in an intragenerational and intergenerational sense, and whether and how they see themselves as trustees or guardians. Most important, we must better understand how central bankers conceive of their role in a democracy; for example, to whom and how do they believe they are accountable politically? We must know more about the rationale for and uses of the polls that central banks like the Bank of England conduct.[68] We also must address the debate about "representative bureaucracy": by virtue of their scientific training and professionalism, are the identities of central bankers of little importance vis-à-vis issues of race, gender, and ethnicity? Research may show that central bankers are not as benign as the contributors assume and that the absence of certain ethnic, racial, and gender

64. Broz 2002.

65. Popular sovereignty can be defined as citizens having the "undisputed right to determine the framework of rules, regulations, and policies within a given territory and to govern accordingly." Held 1991a, 150. Note that Held points out there are restrictions on popular sovereignty in all democracies, including checks and balances and guaranteed rights. Note also that his definition emphasizes the "input" dimension of democratic legitimacy; cf. Schimmelfennig 1996.

66. On the concept of expert democracy, see such works as Hanson 1989, especially 81–2.

67. Aberbach, Putnam, and Rockman 1981.

68. The Bank of England Inflation Attitudes Survey (www.bankofEngland.co.uk) asks citizens about their inflation preferences, basic knowledge of monetary policy (making), and the evaluation of the Bank's performance. Interestingly, in a classic essay on public administration, Woodrow Wilson argued that civil servants should be "intimately connected with popular thought by means of elections and constant public counsel." Wilson 1887. He believed this would prevent "arbitrariness or class spirit" on the part of public administration. Not surprisingly, Wilson did not anticipate the development of opinion polling.

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identities within their ranks results in policies that produce distributional injustices of various kinds within and between generations.[69]

This special issue offers limited insights into citizens' dispositions toward monetary institutions, let alone toward the idea of technocracy. For instance, Broz argues that there is an "audience" monitoring regime choice. And Hallerberg emphasizes the importance of citizens being able to "identify" those responsible for making certain policy decisions. But neither author provides survey data about how citizens—or any highly informed and efficacious segment of the citizenry—comprehend and evaluate monetary institutions (or such things as the way international markets constrain those institutions). Nor, surprisingly, do the contributors provide any evidence that citizens understand and support the central bank reforms that connote convergence to preferred regimes.[70]

In fact, new studies suggest that, in some respects, a case for expert democracy might be sustainable. In a forthcoming book entitled *Stealth Democracy*, John Hibbing and Elizabeth Theiss-Morse find that "perceived consensus" best characterizes Americans' views of many issues. That is, U.S. citizens believe that, with regards to inflation and other matters, they and their counterparts agree about what is desirable. Moreover, citizens are willing to defer to experts, because, in contrast to elected officials who emphasize what are perceived to be false (minor) differences in preferences, these experts are willing and able to choose the best means to achieve what are perceived to be mutually preferred ends. "The apparent desire to empower people often cohabits with the desire to empower entities virtually unconnected to the people."[71] We need additional survey research of this kind, research that establishes more deeply and clearly the existence of such consensus and deference cross-nationally. Such evidence may move us closer to placing monetary technocracy on the footings of expert democracy.[72]

69. The idea of representative bureaucracy is explored and evaluated in works like Krislov and Rosenbloom 1981. To my knowledge, no one has produced a thorough demographic profile of central bankers in relation to the ethnic, racial, gender, and other makeup of their respective societies or, for Europe, for the European Community. Representative bureaucracy presumably would yield more just distributions of such things as male and female unemployment (that is, the distribution of the costs of disinflation). This point is explained further in the following text.

70. One interesting idea is to probe citizens' understanding of the nature of and potential impact of central bank reform. Bernhard 2002, chap. 7 alludes to the need for this kind of research but, unfortunately, does not present any relevant survey data.

71. Hibbing and Theiss-Morse forthcoming, chap. 6, 12.

72. James Monroe puts forth an interesting, related argument. Monroe argues that, for Americans, "direct democracy with scientific administration is a contradiction only when observed from liberal ground. If, instead of clashing interests, the people really did share an underlying communal goal, then both methodologies serve the same end." Hibbing and Theiss-Morse forthcoming, chap. 6, 12. Hibbing and Theiss-Morse also point out that, when at the Federal Reserve, Alan Blinder made a similar argument about the legitimacy of the U.S. monetary authority. Ibid., 13. In this sense, the Federal Reserve may have a "political constituency"; cf. Bernhard 2002, 201, fn. 5. Also germane here are Delli Carpini and Keeter's 1996, 70–1 finding that only eighteen percent of Americans comprehend the nature of monetary policy, and Hibbing and Theiss-Morse's findings supporting the view that citizens lack meaningful policy preferences. Ibid., forthcoming, chap. 6, 21ff.

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TABLE 2. *Public attitudes toward less democratic arrangements in the United States*

	Leave decisions to successful business people	*Leave decisions to nonelected experts*	*Run government like a business*
Strongly Agree	4%	3%	10%
Agree	28	28	50
Disagree	59	60	37
Strongly Disagree	10	9	3

Source. Hibbing and Theiss-Morse forthcoming, Table 6.2. The original source is the Democratic Processes Survey, Gallup Organization 1998.

This project also must address evidence that challenges the idea of expert democracy. For example, in a sophisticated study of the inflationary preferences of mass publics in Organization for Economic Cooperation and Development countries, Kenneth Scheve recently found, contrary to the American public's perceptions, within and across countries there are significant differences in the importance citizens attach to inflation relative to other outcomes like employment.[73] Moreover, the public's macroeconomic preferences vary over time depending on the context (for example, phase of the business cycle). In addition, Hibbing and Theiss-Morse present data that show more than two-thirds of the American electorate are uncomfortable with deference to non-elected experts (Table 2).[74] Their data also provide little popular support for the idea of public-spirited veto players who guard the independence of central banks. Finally, Timothy Hellwig reports that openness of the economy tends to diminish citizens' abilities and willingness to hold government responsible for economic outcomes. This is particularly true of more highly-educated citizens and those who are employed in tertiary, private sector jobs.[75]

Together these findings suggest that elected officials have not so much delegated monetary policy to technocrats as they have abdicated their responsibility to their constituents.[76] In addition, the reduced amplitude in political business cycles that presumably results from the convergence on central bank independence represents a diminution of popular sovereignty. Consensus with respect to the goals of monetary institutions is a false perception. Citizens may have genuinely different interests with respect to inflation and other macroeconomic outcomes. Elected officials ought to promote and protect these interests, and these interests ought to be

73. Scheve 2002.
74. Hibbing and Theiss-Morse forthcoming.
75. Hellwig 2001.
76. Bernhard 2002.

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reflected in electoral outcomes. Citizens may not understand the role of veto players in expert democracy and (or) how regime choice provides governments with the capacity to choose different mixes of inflation and unemployment. A segment of the citizenry conceivably comprehends how and why monetary authority has been delegated to technocrats and therefore does not hold its elected representative accountable for the respective policies. But further research about this segment may show that the respective citizens simply lack efficacy or are misinformed. Then we have the irony that, despite decades of public education and the rise of the mass media, today's citizens are less able to participate in the making of economic policy than their nineteenth century predecessors.[77]

The challenges to the idea of expert democracy do not end here. As noted previously, in addition to their impact on different sectors of the economy, monetary institutions may have lasting gender, ethnic, and racial consequences.[78] If these consequences are shown to be inconsistent with the preferences of the respective groups of citizens, the identities of central bankers become an issue. Evidence that central banks are "unrepresentative bureaucracies" coupled with the increased propensity to delegate to and insulate these institutions seriously undermines any case for expert democracy.

There also are questions about the meaningfulness and nature of legislative oversight of central banks. As we have seen, such oversight may not be understood or supported by citizens. Worse, such oversight may be a process by which certain interest groups ally with the technocrats to produce arbitrary (but real) redistributions of wealth. For example, it could be that constellations of interest groups—particularly groups representing different sectors of the economy—strategically lobby the legislative and/or executive branches of government to exploit those branches' veto powers. The link between "polarization" of the preferences of the legislative and executive branches and expected inflation actually reveals a distributional struggle between different coalitions of industries, each with different "pass through" capabilities and preferences regarding exchange-rate volatility.[79] In this

77. Frieden 1994. Scheve 2002 finds that the distributional consequences of inflation and employment are key determinants of how individuals value these macroeconomic outcomes and also that inflation aversion depends on country-level factors that bear on the expected costs of inflation and unemployment. The editors of this special issue stress that monetary commitments "limit opportunistic business cycles." Bernhard, Broz, and Clark 2002, 16; see also Franzese 2002. And there is much evidence—Freeman and Houser 1998, 651; and Houser and Freeman 2001—that suggests the workings of democratic polities now have only marginal impacts on jobs, output, and other important variables. These findings need to be reexamined to determine whether they represent a decline in popular sovereignty over the economy. Unfortunately, Hellwig's data (personal communication) do not allow him to determine if the tendency to hold elected officials less accountable for the economy is due to the realization that the respective decisions are now made by independent monetary authorities.

78. Frieden 1991 and 2002. See also Scheve and Slaughter 2001.

79. Keefer and Stasavage 2000 overlook the possible link between their work and Frieden 2002, focusing instead on ethnic diversity. Bernhard 2002, chap. 4, fails to discover any link between the presence and size of the financial industry and central bank independence. But he does not explore the possibility that it is through an alliance with certain industries that financial interests influence regime choice.

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sense, legislative and executive influence over central banks is more a matter of "capture" and coalitional politics than the (transparent) protection of any public interest.[80]

In sum, much work remains to be done before we can decide if the optimal regimes sketched in this special issue are democratic. Making the case for monetary technocracy and extending it to the EU and other supranational institutions requires a third generation of multifaceted research. This may be the most important challenge we face in institutional design.[81]

A Crisis of Imagination?

Just as Tinbergen argued several decades ago, the articles in this volume suggest that countries will settle on a particular set of regimes. Convergence will produce the best possible inflation rates and perhaps the most desirable responses to shocks in national output. These regimes will be democratic to some degree, either because democracy is a better means of protecting and preserving monetary technocracy than authoritarianism[82] or because politicians in democracies are able to devise ways to influence monetary policy or use fiscal policy to pursue their more selfish interests.[83] Wage bargaining institutions may be part of the most preferred regimes. In fact, Iversen predicts convergence on a similar set of institutions, although he too is unclear about whether or how these institutions preserve democratic norms and values. Iversen suggests that supranational regimes eventually will embody the same choice of institutions.[84]

80. In fact, the classics on congressional influence over bureaucracy are quite ambiguous about the arrangements by which central banks are monitored by subcommittees. For instance, Ferejohn and Shipan 1990, 9 write, ". . . it is possible that in some cases, Congress wishes to enact a policy that would not get majority support. The classic example is this: Congress wishes to implement a low-inflation monetary policy, knowing that it will have an incentive to renege. Faced with this dilemma, Congress delegates authority over monetary policy to a conservative agency, and delegates monitoring authority to a conservative committee that provides political shelter for the agency's decisions." They offer no explanation of who or what "Congress" represented (in terms of interest groups or party factions) in this case. The implication seems to be that, as regards monetary policy, the motivation was the protection of minority rather than collective interest.

81. This special issue does not go into much detail about how the democratic features of EU institutions are related to those of the new European central bank. Needless to say, many of the points made in this section apply in this setting as well. For example, Frieden 1991 and 2002 suggests that sectoral consequences of the creation and management of the euro are present but transnational in nature. Hence one might conjecture that transnational coalitions of industries behave strategically toward the representative institutions that negotiate with the European monetary authority in the same way that their counterparts do in countries like the United States.

82. See Broz 2002; Hallerberg 2002; and Keefer and Stasavage 2002.

83. See Bernhard and Leblang 2002a; and Clark 2002.

84. Iversen 1999, chap. 6; and Iversen 1998, 498. While some students of wage bargaining allude to electoral politics within labor organizations—for example, Hall and Franzese 1998, 513—for the most part, the respective studies also fail to explain (whether) the regimes they analyze preserve popular sovereignty over economic policy.

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Only time will tell if these predictions are accurate or simply indicative of a crisis of imagination. There are serious questions about the capability of today's citizens—even in the most advanced democracies—to comprehend and engage in monetary and other kinds of economic policymaking. And, despite the information revolution, as yet, there have been few technological innovations in democracy—innovations that would enhance the capabilities of citizens.[85] Finally, the visions of global governance associated with the other feasible leg of the "political trilemma"—world federalism[86]—appear to be little more than old wine in new bottles. But it could be that in some respects the predictions of convergence are more a description and rationalization of what we are observing today than a refutation of some possible worlds. My hope is that these possible worlds include a regime in which there is markedly more popular sovereignty over the making and implementation of economic policy.[87]

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85. I am thinking here of electronic means of popular deliberation or so-called "teledemocracy." Cf., for instance, Meyer 1993. Interestingly, Hibbing and Theiss-Morse's 2001 new work on citizens' "process" preferences reveals little support for direct democracy.

86. See Rodrik 2000; and Held 1991a and 1991b.

87. Rodrik 2000 points to the EU as a first step toward global federalism. Of course the EU employs a monetary technocracy and it has been criticized for its "democracy deficit." Needless to say, world federalism is an old idea that can be traced to at least the 1950s and probably a few hundred years prior to that. Cf. Clark and Sohn 1958.

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