

The political economy of trade policy reform: social complexity and methodological pluralism

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Abstract

This paper provides a critical review of current research on formal modelling of the political economy of policy reform. It ultimately argues that, due to the complexity of policy reform situations, at least as currently constructed, these models do not possess sufficient systematic content to form the basis of empirical research or policy advice.

Keywords

Political economy, policy reform, complexity

1. INTRODUCTION

‘Happy families are all alike; every unhappy family is unhappy in its own way’.

Tolstoy’s famous observation in the first line of *Anna Karenina* applies, *mutatis mutandis*, to the political-economy of trade policy: all good trade policy is the same; but bad policy is different in a bewildering variety of ways. As with families, it is not so much that all countries with good policy are actually identical, but that good policy can be characterized in a relatively straightforward way, while there are literally an infinite number of ways for policy to be bad relative to any given underlying economy or political-economy.¹ Since, from any particular state of bad policy there are also an infinite number of paths to good policy, ‘Tolstoy’s Law’ applies with even greater force to policy reform. In a sense, this paper is an extended analysis of the application of Tolstoy’s Law to the political-economy of trade policy reform. Specifically, this paper argues that, unlike many of the applications of microeconomic methods to political-economic analysis, simple abstract models of policy reform have very little systematic empirical content and,

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thus, do little to improve our understanding of the reform process and offer little in the way of compelling support for policy advice.²

This argument is developed in several parts. First, it is argued that, at least when it comes to characterizing good policy and/or policy reform, current formal theories of political-economy have fundamentally less empirical content than formal political models of bad policy or even, say, than the two-good \times two-factor trade model. Specifically it is argued that, if we believe that the empirical content in models of this sort is closely tied to a conviction that the causal forces being modelled (i.e. the assumptions) have broad and significant applicability across agents/economies, the fact that models of good policy and policy reform are special in precisely this way leads us to conclude that this body of theory has very small empirical content.³ Next, it is argued that policy reform is a complex, disequilibrium situation for which (like Tolstoy's unhappy families) there is no general theory with systematic empirical content. Thus, while models of the sort currently dominating formal political-economic research on policy reform are useful for auditing the logic of arguments, the largest social scientific payoff will come from attempts to organize systematically the experience of reforming economies.

The next section presents the basic structure of static political economy models, suggesting that they provide compelling accounts of why bad (i.e. economically inefficient) policies are adopted. Unfortunately, it is extremely difficult to use these models to explain the adoption of good policy. This point is developed by reviewing a number of prominent attempts to develop theories of trade policy reform based on standard political economy models: first, the static models that are the most direct outgrowth of current political economy modelling in the trade literature; second, some recent semi-dynamic models; and finally, the fully dynamic models that are most extensively used in current research on policy reform. In all cases, we find that, although the models identify plausible causal forces that might contribute to policy reform, they lack systematic empirical content. The paper concludes with an attempt to account for these problems in terms of the magnitude of the social change involved in virtually all policy reforms.

2. POLITICAL ECONOMY MODELS OF BAD POLICY

Endogenous policy theory, in virtually all applications, was developed to account for 'bad policy' – i.e. deviations from the optimal policies prescribed by economists. Given the nearly unanimous support (amongst economists) for relatively liberal trade regimes, this is particularly true of the literature on the political economy of trade policy. The standard motivation for research on the political economy of trade policy proceeds by pointing out that virtually no contemporary or historical illiberal trade regime can be satisfactorily rationalized as welfare maximizing.⁴ Then one notes that there are three broad classes of explanation for this fact:

- (1) politicians are ignorant;
- (2) economists are ignorant; and
- (3) politicians are smart, but venal.

The third category is, of course, the entering wedge of political-economy modelling and we get to the third category by rejecting the first two as plausible bases for explaining the existence of bad policy. Before turning to political-economy modelling, it will prove useful to comment briefly on the other two (especially the first).

I think we all recognize that there is a certain *prima facie* plausibility to an explanation of bad policy in terms of Economics ignorance on the part of our political leaders and our fellow citizens. One need not listen to public discussions of trade policy for very long to recognize that, regardless of the position taken, non-economists do not think about trade policy the way economists do.⁵ Ultimately, however, and wisely in my opinion, we eschew attempts to explain bad policy in terms of ignorance. First, from an analytical point of view, ignorance is not a very useful concept: because it can rationalize *any* deviation from optimality, it is unable to explain specific patterns of deviation compellingly – and the stylized fact is that virtually all countries have too much protection, not that patterns of protection are distributed randomly. Second, the adoption of ignorance as a central explanatory concept would seem to be deeply inconsistent with the commitment of economists to ground explanation in terms of rational choice. It is important to bear this second argument in mind, because it will turn out that one of the main attempts to explain the turn to export-orientation is learning, especially from the experience of the East Asian NICs.

'Economists are ignorant' is shorthand for arguments to the effect that the world we inhabit differs considerably from the world represented by the models we use to illustrate why we hold a strong presumption in favour of liberal trade regimes. In fact, most of the arguments for the inferiority of free trade were either developed, or given their modern form, by economists: the optimal tariff (Bickerdike, Edgeworth, Kaldor and Scitovsky); the infant industry argument (Mill, Bastable and Kemp); income distribution effects (Stolper and Samuelson); general theory of distortions (Bhagwati and Johnson); and strategic trade policy (Brander and Spencer). The clarity gained from careful modelling of these arguments allows a fairly general conclusion that the great majority of actually existing protection cannot be usefully understood as the product of a rational response to one or another of these arguments.

Thus, even taking full account of ignorance (distributed in some measure between politicians and economists), we still need to find an explanation of *systematic* deviation from good trade policy. The various political economy models illustrate the fact that plausible forms of political interaction can account for patterns of protection of the sort that we observe.⁶ Because the

goal of these exercises is to illustrate plausible causal forces that sustain suboptimal policies *in equilibrium*, the great majority of these models are static, equilibrium models. The usual neoclassical political-economy model starts with a neoclassical economy: $\mathcal{E} = \{\mathbf{Z}, \mathbf{F}, \mathbf{R}\}$, where \mathbf{Z} is a matrix allocating factors of production among households, \mathbf{F} is a vector of technologies, and \mathbf{R} is a vector of household preference relations over final commodities. To this economy we attach a vector of possible policy interventions (\mathbf{t}) and a political mechanism (\mathbf{M}) yielding a political-economy: $\mathcal{P} = \{\mathbf{Z}, \mathbf{F}, \mathbf{R}; \mathbf{t}, \mathbf{M}\}$. We use the economic information to derive household preferences over all values for \mathbf{t} and then \mathbf{M} determines the actual levels of \mathbf{t} that are consistent with general, political-economic equilibrium. For example, in a 2×2 HOS model in which households are endowed with varying shares of the two factors, if \mathbf{t} is a scalar that can take any value between the prohibitive tariff and the maximum import subsidy consistent with balanced trade, and household preferences are single-peaked over possible values of \mathbf{t} , it is easy to show that the equilibrium value of the tariff will be at the optimal tariff of the median voting household.⁷

3. POLITICAL ECONOMY OF EXPORT-ORIENTATION IN STATIC POLITICAL-ECONOMY MODELS: THE PROBLEM WITH POLITICAL ECONOMY MODELS OF BAD POLICY

It is essentially trivial for models of this sort to characterize a political-economic equilibrium with export-orientation: one merely needs to assert (for example) that the median voter's preference is for export-orientation. Unfortunately, we want something considerably more from a model of endogenous trade liberalism than we wanted from a model of endogenous protection. In the case of protection, we believe, with good reason, that deviations from optimal policies were the result of politics. The job of the models was simply to illustrate the argument. In the case of policy reform, we want not a model of liberalism but a model of liberalization. That is, we accept the protectionist outcomes from endogenous policy models as characterizations of policy equilibrium with general applicability, now we want to know what happened to upset the protectionist equilibrium. We even want a model of liberalization to help us advise governments on how to liberalize. I will ultimately argue that these static models, as well as the more recent dynamic models of resistance to reform, are not, as a practical matter, a particularly useful framework for thinking about the transition to export-orientation (especially from a normative point of view). However, in the remainder of this section, I will review the small number of attempts to use models of bad policy and resistance to reform to discuss both positive and normative aspects of reform.

Before turning to the details, however, we might pause to note the deep inconsistency in using models of this sort for normative purposes. In these

models, all agents are fully rational and fully informed (at least about the structural details of \mathcal{P}). The equilibrium is an *equilibrium*, all agents have presumably optimized over the full range of their economic and political actions. There is no money lying on the street and no one to give advice to. It is the case, as we shall now discuss, that these models can be used to characterize new equilibria via standard comparative static analysis, but there is virtually no way that they can explain how to arrive at the new equilibrium.⁸ In a fundamental sense, there is no such thing as ‘bad’, or ‘good’, policy in these models. To the extent that we endow some agent with a preference for ‘social welfare’ as a whole, this is a particularly groundless addition to the model. Economists might interpret a move toward free trade, or even export-orientation, as constituting an improvement in policy, but this has no organic relationship to \mathcal{P} .⁹

It should be clear that an appropriate change in any of the elements of \mathcal{P} can be used to account, in a comparative static sense, for a liberalization of the trade regime. Far and away the most intuitive such exercise involves an exogenous change in the endowment vector (\mathbf{Z}). In the basic Downs–Mayer model, an increase in the number of agents owning large shares of the abundant factor, relative to the number of agents owning large shares of the scarce factor, would result in a median voter with a preference for a more liberal trade regime. At least as far back as Kindleberger (1951), students of trade policy have treated this as an essential element in the story of sustainable transitions to low equilibrium protection. This makes good sense. If the endogenous policy analysis has any validity at all, and it seems to have considerable validity, no liberalization can be sustainable that is not rooted in the effective preference of citizens – which are taken to be rooted primarily in factor-ownership. Similar arguments can be launched on the basis of changes in technology, preferences, or combinations of all three that change the preference (identity) of the median voter in the direction of more liberal trade. While such mechanisms have often been used in accounts of historical changes in trade policy, they have received very little theoretical attention for several reasons. First, and probably most importantly, they are theoretically trivial: no one is going to build a reputation formalizing such an obvious insight. Second, this sort of account only provides a sufficient condition for a policy transition (i.e. it provides a partial explanation of why such a transition is sustainable), it tells us very little about the timing or the transition to such a change. In the case of the United States, for example, there is virtually no way to associate changes in economic fundamentals with the trade politics of 1934 (the date of the Reciprocal Trade Agreements Act that formed the basis for the transition to more liberal trade policy in the US). Finally, economic fundamentals (i.e. \mathbf{Z} , \mathbf{F} and \mathbf{R}) are not generally seen as instruments of trade policy reform, so there is very little value in such analysis from the perspective of policy advice. Thus, it is not surprising that most theoretical analysis focuses on the political system: the instrument set (\mathbf{I}); and the political mechanism (\mathbf{M}).

By 'the instrument set' I mean the policy instruments actually available to the government at the relevant time: tariffs, quotas, subsidies, etc. A number of papers use the fact that different policy instruments can affect the incentives of agents to engage in political action. For example, Rodrik (1986) demonstrates that, contrary to the usual Bhagwati–Johnson ranking, if policy is determined by a political process dependent on collective action by an industry, then subsidies may be more costly than tariff protection. The logic, presented formally by Rodrik, is straightforward: since the benefit of a subsidy is received exclusively by a firm, while a tariff is received collectively by the industry as a whole, the usual collective action argument implies that protection to the industry will be undersupplied in a tariff regime relative to a subsidy regime. Thus, while the use of a subsidy avoids the consumer cost of the tariff, the production distortion is greater under an endogenous subsidy, so the two cannot be uniquely ranked.¹⁰ It is easy to see that an alternative interpretation of this result is that a switch from a subsidy regime to a tariff regime would result in a lower equilibrium tariff for the industry. Hall and Nelson's (1992) analysis of the switch from legislated protection to administered protection works in essentially the same way, except the relevant units are industries instead of firms: legislated protection provides industry-specific tariff protection, while administered protection involves the adoption of a rule which is applied across all industries; as a result, the equilibrium level of protection is lower under an administered protection regime than under legislated protection.¹¹ Nelson (1989) argues that the switch from legislated to administered protection embodied in the Reciprocal Trade Agreements Act (RTAA) helps account for the sustained reduction in the equilibrium tariff observed in the post-1934 period. However, as Hall *et al.* (1998) and Irwin (1998) argue, this fact does nothing to explain why Congress adopted the RTAA, nor why they did not repeal it at a later date.

The political mechanism is the set of rules and institutions that relate citizen/agents and state actors to determine the equilibrium level of use of the available instruments.¹² One obvious example relates to franchise rules. In democratic societies, franchise is restricted in many ways: age, race, gender, property ownership, citizenship, etc. For the case of endogenous trade policy, Mayer (1984) was the first to provide a clear formal analysis. Using a one-dimensional tariff and a simple referendum, Mayer developed an analysis of voting costs which he used to illustrate the impact of what are essentially property restrictions (i.e. share of capital in the household factor-endowment) on equilibrium tariffs. Hall *et al.* (1996) demonstrated the empirical relevance of this analysis to the case of US tariffs by extending the Downs–Mayer model to the case of female franchise. They presented anecdotal evidence suggesting that women were expected to have systematically more liberal preferences than men and a mix of anecdotal and econometric evidence supporting the hypothesis, derived from the Downs–Mayer model, that female franchise would lead to a lower equilibrium tariff. While the politics of female franchise

were essentially unrelated to the politics of trade, the effect on the equilibrium tariff may have been substantial. As with the economic fundamentals, however, there is very little leverage for policy advice here – it seems unlikely that franchise rules will be (or should be) adopted with an eye to trade policy outcomes.

The great virtue of referendum-based models, as a vehicle for illustrating the importance of political forces in the determination of policy, is their extreme simplicity. Thus, they are ideal for illustrating that political factors *can* bias policies away from those that might maximize social welfare. Unfortunately, trade policy has only very rarely been determined by a single-issue referendum.¹³ Lobbying and other forms of collective political activity play a considerably more important role in the determination of actual trade policies so, because referendum models and lobbying models do not generally yield the same outcomes, to move beyond an illustrative role we must apply models that are more appropriate to the question at hand. Unlike simple referenda, lobbying necessarily involves the commitment of non-trivial real resources and, thus, the organization of agents with common interests and extraction of political resources from them. The great majority of formal theoretical research on the political economy of trade examines some kind of lobbying model but proceeds under the assumption either that all agents are organized and optimally taxed by a political entrepreneur (e.g. Findlay and Wellisz, 1982; Hall and Nelson, 1992) or under an *ad hoc* assumption that some agents are better organized than others (e.g. Grossman and Helpman, 1994). These models have the virtue of a somewhat closer alignment between their assumptions and the politics they are seeking to characterize, but from the perspective of understanding policy *change* the lobbying models have the same fundamental problem as the referendum based models – as models of political equilibrium, they are essentially unable to characterize policy change in any useful way.

Unlike the main structural elements of the economy and the political system, if we are willing to recognize that political agents have preferences over trade policy that are imperfectly correlated with whatever determines their possession of political office, changes in state policy preferences are a plausible source of policy transition. There are two main mechanisms by which such change might occur: the identity of state actors can change; or state actors can change their minds about trade policy. In the first case, for reasons not directly related to trade policy, control over trade policy passes to state actors with systematically stronger preferences for liberalization. This was certainly an essential element in both major liberalizing episodes in 20th century US history.¹⁴ Similarly, as many analysts have noted with respect to the politics of trade liberalization in the contemporary period, disastrous macroeconomic policies have ushered in governments committed to a range of liberal policies, including trade liberalization (Rodrik, 1994a). While it appears to be considerably rarer than change due to political transition,

midcourse change in the trade policy preferences of sitting governments are also possible. Peel's conversion to free trade is certainly the most famous such conversion, but the adoption of a more outward-oriented policy was an essential part of Chiang Kai-shek's transformation from kleptogarch to growth promoter.¹⁵

Once we permit state preferences over trade policy to change independently of social preferences over trade policy, the value of standard political economy models to both the normative and the positive analysis of liberalization/export-orientation becomes more apparent. On the normative side, Feenstra and Bhagwati (1982) consider a social welfare-maximizing government that does not possess a lump-sum instrument but is constrained by asymmetric (pro-tariff) lobbying, and solve for the optimal tariff-cum-tariff revenue transfer scheme (what they call the 'efficient tariff'). Hillman and Ursprung (1996) adapt the Feenstra-Bhagwati model to the analysis of trade policy reform in transitional economies. The underlying economy is considerably different but the essential logic is the same: in the absence of an ideal instrument, which bundle of policies maximizes social welfare subject to a political constraint? Of course, there is no reason to represent the alternative governments as 'welfare maximizing' and 'protectionist sellout'. It is perhaps more consistent with the general logic of political economy modelling to consider a political-economy with, say, a pro-capital party and a pro-labour party (as in Magee *et al.* 1989). In addition to being consistent with strong export-orientation (rather than an attempt to induce simple free trade), attaching the Feenstra-Bhagwati logic to a model of politicians with policy preferences could lead us to expect even more distorted policies if it is applied to governments with skewed trade policy preferences.¹⁶

4. THE POLITICAL-ECONOMY OF EXPORT-ORIENTATION IN DYNAMIC POLITICAL ECONOMY MODELS

It is probably not surprising that static political economy models are not much help in understanding policy reform. It may be surprising that dynamic models share many of the same problems. From the perspective of analysing changes in equilibrium policy, the most satisfactory models explicitly analyse the dynamic political-economic interaction that underwrites sustained bad policy and, ideally, explains the collapse of that equilibrium and the discontinuous transition to good policy. Before considering such models, we briefly note two semi-dynamic approaches to the political-economy of trade policy reform. Unlike the models of bad policy, crisis and reform, these semi-dynamic models begin with an exogenous shock and examine the path of policy change.

Baldwin and Baldwin (1996) survey models in which an essentially unexplained increase in protection reverts to efficient policy either as a result of deteriorating political effectiveness of protection-seekers or increased political action by liberalization-seekers. The first formal model of

endogenously decreasing political effectiveness is due to Hillman (1982). Hillman adapts the Peltzman–Becker regulatory model that explicitly incorporates producer gains and consumer losses to the case of trade protection. Under special assumptions on the political-support function, Hillman is able to generate a smoothly falling tariff in response to smoothly declining comparative advantage.¹⁷ Brainard and Verdier (1994) present a substantial extension of the Hillman model to an explicitly dynamic environment. In addition, Brainard and Verdier replace the *ad hoc* political-support function with an endogenous contribution equilibrium of the Grossman and Helpman (1994) sort. In each period, the declining industry must choose some level of costly adjustment and some level of costly adjustment resistance (i.e. political activity). In this model, the authors are able to show that the industry declines smoothly to a level of output that remains above the efficient level. This, however, is still a long way from explaining discontinuous change at the level of the entire trade regime. Cassing and Hillman (1986) present a first model of discontinuous change, but their result is essentially assumed in the form of the political-response function. This analysis does not so much illustrate a plausible causal mechanism as render into simple mathematical form the statement that industries can get support, but if they get too small the support collapses. Brainard and Verdier (1994, 1997) suggest that the inclusion of fixed costs in their framework might generate the kind of discontinuity necessary to generate a discontinuous change in support by the government. We would still not, however, have explained a general discontinuous liberalization, but a major analytical step forward would have been taken.

Baldwin and Baldwin also consider the effect of a fixed political cost (actually a sunk cost). In Baldwin and Baldwin (1992) the authors consider the effect on the decision of anti-protection forces to enter the political market. Thus, following a decline in competitiveness a protection-seeking industry might be willing to pay the fixed political cost (acquire political capital) and begin pushing up protection, but once protection reaches some level, the anti-protection forces will also be willing to pay the fixed cost, leading to a jump down in the level of protection. Alternatively, Baldwin and Baldwin (1993) consider the effect of depreciating political capital. Unfortunately, there is neither compelling logic or evidence to support such depreciation.

Lovely and Nelson (1993) use a somewhat different semi-dynamic approach to illustrate Krueger's (1993) unintended consequences of the liberalization argument. The Lovely–Nelson model examines the effect of an exogenous liberalization shock in an environment with three groups (exportable producers, importable producers, and smugglers) and two policy instruments (the tariff and anti-smuggling activity), where the levels of each of the instruments are set by costly lobbying. Each period following the liberalization shock has two sub-periods: in the first the level of anti-smuggling is set; in the second the level of the tariff is reset. The timing

reflects the assumption that the initial shock fixes the tariff for some period, during which agents re-optimize through the political market for the anti-smuggling instrument. Once that is set, however, and the political market for the tariff is reopened (but the market for anti-smuggling is closed), agents will find that they once again want to engage in politics on the tariff, but the environment is changed as a result of the new policy level on smuggling. Lovely and Nelson show that in this sort of environment, there are both virtuous cycles (i.e. continuing liberalization) and vicious cycles (a return to, and even intensification of, protection). Like the static endogenous tariff literature, the Lovely–Nelson model uses a simple political mechanism to illustrate the operation of an effect that observers believe to be operable. However, like the static models, it provides no explanation of the exogenous shock and provides no fundamental account of any known liberalization process. Thus, like the Cassing–Hillman and Baldwin–Baldwin models, it does not present a serious analysis of trade policy reform.¹⁸ Thus, we turn to more seriously dynamic political economy models of policy reform.

In the last five years, sparked by reform efforts primarily in Eastern Europe and Latin America, there has been an explosion of research on the political economy of policy reform.¹⁹ As with the static models, however, what most of the theoretical research is about is either: ‘Why don’t governments reform bad policies right away’; or ‘Why do reform programmes get reversed?’. These are not so much analyses of the political-economy of reform as of the political-economy of non-reform. Nonetheless, this is a substantial body of research that seeks to explain discontinuous change in a policy regime. Although there are a large number of ways of categorizing this research, one way is to consider two dimensions: whether agents are *ex ante* identical or heterogeneous; and the state of information possessed by agents.²⁰ As in the case of static models, the political role of heterogeneity is obvious. It is also not surprising that, once time is introduced in a serious way, information can play a significant role in political-economic analysis. Table 1 gives examples of the five valid categories.²¹

While both heterogeneity and uncertainty/asymmetric information would seem to be essential elements in literally any large-scale social structural change, it is interesting to note that both resistance to reform and the role of crises in generating reform can be usefully examined in models with neither heterogeneity nor uncertainty. Tornell (1995) and Velasco (1994) developed a simple, but compelling, repeated-game analysis of revenue-seeking behaviour by identical groups. In this model the state taxes a politically unorganized sector to raise revenue which is then shared between two organized groups.²² In addition, any organized group can forego current gains to exclude the other from future consumption of tax revenue (thus capturing the state for itself), but if both attempt to do so an autonomous state emerges and both are excluded from state revenues. In the context of this model, for some range of parameters, the equilibrium in which each of the politically organized groups

Table 1 Simple typology of dynamic models of policy reform

<i>Politically active agents ex ante</i>	<i>State of information is characterized by:</i>		
	<i>full-information</i>	<i>payoff uncertainty</i>	<i>asymmetric info</i>
Identical	Tornell Velasco	Fernandez/Rodrik Roland/Verdier Rodrik (1995c)	
Heterogeneous	Labán/Sturzenegger (a) Perotti	Labán/Sturzenegger (b) vanWijnbergen	Alesina/ Drazen Drazen/Grilli Dewatripont/Roland Information Cascade

continues to share the government revenue is sustained and, although this is efficient for the politically active groups, it is inefficient for the economy as a whole. Thus, inefficient policy is sustained (i.e. trade policy is not reformed).

However, an interesting feature of the model is that, if economic conditions become sufficiently bad, the Nash equilibrium switches from cooperation to defection and, thus, to policy reform. This occurs because, in the bad state, the taxable surplus in the exploitable sector falls, lowering the return to economic activity and making political action to transform the system cheaper. For a large enough negative shock, the temptation to defect becomes too great and the autonomous state emerges. Thus, not only does this model contain an account of sustained bad policy, it also incorporates a discontinuous transition to good policy. As with static political-economy models, Tornell succeeds in using a simple, but plausible, political mechanism (in this case lobbying) to illustrate the way that political forces can interact with economic forces to produce sub-optimal outcomes. This is an ideal illustrative model, but the magnitude of systematic empirical content is surely low. Tornell and Velasco are quite convincing that forces of the sort embodied in the model were at work in Mexico and Chile, and the formalism greatly eases the process of checking the logic of the argument, but the model is ultimately very special and it would be difficult to say how one would determine the magnitude of the role played by such forces. Furthermore, although Tornell provides some discussion of the implications of the model for an ideal social planner, there is nothing in the model to explain where such an entity would come from, nor is there any justification for the assumption that collapse of the cooperative regime generally leads to an autonomous regime inhabited by an ideal social planner.

An alternative approach to rationalizing sustained bad policy retains the assumption of *ex ante* identical agents, but focuses on the presence of

uncertainty in the face of large-scale structural change. The standard reference here is Fernandez and Rodrik (1991) who develop a simple model to illustrate the fact that uncertainty about the identity of gainers and losers from a policy reform can lead to resistance to a reform that would benefit a majority of the population.²³ The basic idea is that there is a policy reform that will raise the returns to good jobs and increase their number, but will lower the returns to bad jobs. Fernandez and Rodrik show that such a reform can fail in a single-issue referendum, even if a majority of the population would have good jobs after the reform, if there is uncertainty among bad job incumbents about who will get the good jobs under the new policy.²⁴ Since all bad job incumbents are *ex ante* identical, each makes the same expected value calculation. Thus, the result depends on the utility difference between good jobs and bad jobs, and the number of new good jobs relative to current bad jobs. This makes perfectly good sense. Like Tornell and Velasco, Fernandez and Rodrik provide a simple formal representation of a phenomenon that must be operating in any reform situation. Even more than for Tornell's and Velasco's analysis, however, it is difficult to know how one would implement a systematic empirical evaluation. In Tornell/Velasco's case, the political competition between groups is observable, while none of the key relationships in the Fernandez-Rodrik analysis are observable. Furthermore, since it is surely the case that both political competition and uncertainty are operating in any given large-scale reform situation, but neither are particularly operational concepts, it is difficult to conceive of how one would determine the relative significance of these two forces. Finally, since (as Fernandez and Rodrik point out) the uncertainty is in some sense irreducible, it is not very useful in explaining why reform actually occurs and, given the essentially static nature of the analysis, it is also fairly uninformative with respect to what actually triggers reforms when they do happen.²⁵

The extension of the full-information and payoff uncertainty models with *ex ante* identical agents to the case of structurally heterogeneous agents is quite straightforward. Labán and Sturzenegger (1994a,b), in particular, have emphasized the importance of competition among economically heterogeneous agents. Specifically, they develop a model of political competition between equal-sized populations of rich and poor people, differentiated only by the fact that rich people have access to a tax evasion technology.²⁶ Following the Lancaster (1971) structure, during normal politics the 'poor' control the choice of debt and transfer from rich to poor, while the rich decide how much of their endowment to shield from taxation. This leads to increased taxation, which is taken to impose a distortion in addition to the transfer. Labán and Sturzenegger's innovation is to require agreement on the allocation of costs in a policy reform before such a reform can be implemented. In Labán and Sturzenegger (1994a), resistance to reform is generated in a complete information environment by a fixed cost of reform, and in Labán and Sturzenegger (1994b), by uncertainty about the success of the reform and

costly policy reversion with risk averse agents. Perotti (1996) develops a particularly nice extension of this basic logic to the full information case with three classes. Not only do the dynamics show a close resemblance to those discussed in O'Donnell's (1973) well-known work on the dynamics of bureaucratic-authoritarian systems in the southern cone of Latin America, but such dynamics disappear in rich countries. As with the other models we have considered, Labán/Sturzenegger and Perotti have clearly identified another potentially important channel generating patterns of resistance to reform and discontinuous adjustment in the political-economic regime. However, also like the other models, it seems unlikely that one can disentangle these effects from the others.

An alternative approach, based on *ex ante* informational heterogeneity is developed by van Wijnbergen (1992). Here, structurally identical agents have differing priors on the likelihood that the reform will be reversed.²⁷ In modelling the underlying economy, van Wijnbergen focuses on the important relationship between supply response and sustainability of reform. In a two-period model of price reform in which goods produced in Period 1 can be stored for intertemporal speculation, it is shown that (with a given probability of the reform collapsing) larger reforms produce lower hoarding and larger supply response. As a result, there will be fewer problems with shortages. At the same time, citizens, each of whom has a prior evaluation of the likelihood of programme collapse and updates that evaluation on observing the Period 1 supply response, will vote either for the incumbent (who will continue the reform to its completion in Period 2) or the opponent (who will reverse the reform) prior to the realization of the Period 2 price. All citizens observe the actual supply response and update according to the Bayes rule, so van Wijnbergen is able to characterize the conditions under which the median voter will shift toward (or away from) a continuation of the policy. Since gradualism leads to hoarding, and thus to low supply response, citizens' *a posteriori* evaluations reflect a greater expectation of policy failure. van Wijnbergen uses this framework to argue in favour of 'cold bath' reform rather than gradual reform.²⁸ The case is compelling as far as it goes. However, as with the other papers we have considered to this point, while we are convinced that this channel leads us to prefer the cold bath, we are provided with no way to evaluate the significance of this channel relative to equally compelling arguments for gradualism.

The last major class of models uses recent advances in modelling games with asymmetric information to study policy reform in political economies with structurally heterogeneous agents. The standard reference here is Alesina and Drazen (1991). Alesina and Drazen, like Labán and Sturzenegger, start with the insight that one possible source of resistance to reform is lack of agreement on the allocation of the economic burdens associated with the reform. They argue that this insight is usefully modelled as a 'war of attrition'.²⁹ The Alesina-Drazen model would appear to have two problems

not shared by the other papers considered thus far: one related to the central role played by asymmetric information; and the other related to the difficulty of interpreting the war of attrition.

First, consider the role of asymmetric information. It seems quite uncontroversial to assert that asymmetric information plays a significant role in many political situations. However, it seems likely that it is empirically relevant only when the private information is, in some sense, large relative to the political judgements being made. For example, since every agent is large with respect to type-dependent transfers, there are important reform-related issues that are usefully analysed in an asymmetric information context. Lewis *et al.* (1989) examine the political viability of price support elimination where the skill level of individual workers and their ability to earn in other industries is private information and constitutes a barrier to implementing the first best in an environment where reform requires that some proportion of workers approve a programme in which transfers are financed in part by taxes on workers that remain in the industry. Dewatripont and Roland (1992a,b) use such an approach to examine the optimality of gradual versus 'big bang' policy reforms, concluding that, under the assumptions of their model, gradualism dominates the big bang. Regardless of how one evaluates this conclusion as an empirical statement about existing reforming economies, this is an appropriate and useful application of asymmetric information techniques to the problem of policy reform: individual-specific asymmetric information is a potentially important consideration in deciding the time-profile of a reform.³⁰ Unfortunately, this is not the case for the asymmetric information that drives the Alesina–Drazen model. Not only are they dealing with the willingness to bear costs of *groups* in the face of large policy changes, but these are groups that have been in continuous interaction over long periods of time. It is quite difficult to conceive of this sort of situation as supporting the kind of stickiness necessary to generate rather long periods of resistance to reform.

The other major problem with the Alesina and Drazen analysis relates to the empirical referent of the waiting game. Unlike Fernandez and Rodrik, where the specific political mechanism was inessential to the central argument, Alesina and Drazen make the war of attrition their central point. Specifically, they argue that the essential element of such a political situation is that all social groups experience the costs of bad policy, but that the policy cannot be changed until all groups agree on an allocation of the costs of the reform. The decision process is that groups successively forfeit their veto until one group is able to impose its preferred allocation of costs. The group willing/able to absorb the highest cost wins, but since 'toughness' is private information, the war of attrition will go on for a finite period of time. While the structure of the war of attrition is convenient, unlike the case of animal conflicts, the empirical referent is far from clear (unlike the other models of lobbying we have considered). If there are two male dung flies waiting on a cow pat for a female,

the one that leaves misses the opportunity to fertilize the eggs. What it means for a group to leave the political cow pat is far from clear. The attempts by Alesina and Drazen (also see Alesina, 1994) to claim empirical support for the war of attrition model rests on the, certainly true, assertion that many policy reform situations are characterized by the following conditions.

1. Nearly everyone agrees on the need for reform.
2. There is broad disagreement on the appropriate nature of reform.
3. The differences reflect self-interested preferences over the distribution of costs.
4. The political winners impose their preferred outcome.
5. The losers experience a decline in their political fortunes.

While these certainly do characterize many reform situations, nothing in them is unique to the war of attrition. Unfortunately, the authors are not able to offer any evidence that is specific to the war of attrition; in particular, at no point is there any evidence presented on relative willingness to bear costs. As the five stylized facts are completely consistent with a wide variety of models, one is left quite uncertain about the empirical content of this model and, thus of its use as a basis for positive or normative analysis.³¹

An alternative, though apparently unexploited approach, would treat the political-economy of policy reform in terms of *informational cascades*.³² The essential element of informational cascade models is the presence of an informational externality. Specifically, 'an informational cascade occurs when it is optimal for an individual, having observed the actions of those ahead of him, to follow the behavior of the preceding individual without regard to his own information' (Bikchandani *et al.*, 1992: 994). Consider a model like that of van Wijnbergen (1992), described above, except that instead of an election each individual chooses to take some form of individual action (say a protest). Even if many individuals have received private signals reflecting policy failure and/or regime weakness, aggregate political inaction may be the result of an informational cascade. However, as Bikchandani *et al.* argue, informational cascades are fragile in the sense that they can be easily upset by public releases of information. Thus, for example, a crisis might trigger the collapse of a cascade and the shift to a new equilibrium.³³ Alternatively, it seems possible that an informational cascade prior to an election could reverse van Wijnbergen's main result and restore a preference for gradualism. That is, suppose that the probability of engaging in protest is increasing in the magnitude of the negative signal, and that there are both more losers and that (at least some of) those losers experience larger negative signals than under a gradual reform. Public protest could generate an informational cascade against the cold bath reform leading to a reversal where a gradual reform would be sustainable.

At least as interesting as the application to domestic political-economy,

however, is the application of informational cascade theory to the international political-economy of trade policy reform. Specifically, this framework provides one coherent account of the clustering of countries adopting export-oriented policies in the 1980s that has been widely commented on (e.g. Rodrik, 1994a). In fact, both the widespread adoption of import-substitution policies in the immediate post-imperial era and the contemporary shift to export-orientation can easily be represented as informational cascades induced in part by early adopters (the USSR and India in the case of import-substituting industrialization [ISI], and Chile and the East Asian NICs for export-led growth [XLG]) and in part by public signals from the economics profession as organized through international agencies (especially the World Bank and the IMF). Interestingly these models provide little warrant for concluding that this time, developing countries have identified the correct policy (e.g. Krueger, 1997). While cascades are fragile and, under certain assumptions, social learning leads to the 'correct' choice in finite time (Lee, 1993; Vives, 1996), the time to such a result can be long and there is nothing in the model that identifies a particular cascade as good or bad. In this regard, I find it telling that, at precisely the moment that the XLG cascade is strongest among policy makers, there is increasingly vocal opposition to the more aggressive claims for export orientation, as represented, say, by the World Bank's *East Asian Miracle* report (Rodrik, 1994b, 1995d; Haggard, 1994; Amsden, 1994). Once again, however, this is just a formalization of an insight that is widely believed to have played some role in domestic policy stickiness and international policy clustering. How one would determine the relative significance of these phenomena is difficult to determine.

So far, the argument of this paper has been fairly negative. Although the research we have reviewed has served the extremely useful purpose of increasing our clarity on how a variety of arguments work, once we are convinced that the logic is not flawed there is very little additional return relative to informal presentations of the same arguments – all of which, with the possible exception of the war of attrition, have long existed in informal discussions of policy reform. I would like now to argue that this is not a general problem with economic modelling, but is a function of the fact that large-scale structural changes are complex in ways that rob standard models of empirical content.

5. SIMPLE MODELS OF THE POLITICAL-ECONOMY OF POLICY REFORM AND THE OWL OF MINERVA

'One more word about giving instruction as to what the world ought to be. Philosophy in any case always comes on the scene too late to give it. As the thought of the world, it appears only when actuality is already there cut and dried after its process of formation has been completed. The teaching of the

concept, which is also history's inescapable lesson, is that it is only when the actuality is mature that the ideal first appears over against the real and that the ideal apprehends this same real world in its substance and builds it up for itself into the shape of an intellectual realm. When philosophy paints grey in grey, then has a shape of life grown old. By philosophy's grey in grey it cannot be rejuvenated but only understood. *The owl of Minerva spreads its wings only with the falling of dusk.*'

(Hegel, 1821: 12–13, my italics)

In this passage from the *Philosophy of Right* Hegel is, of course, talking about entire social systems (like feudalism or capitalism), but its application to large-scale structural change of any kind is immediate. Large-scale structural change is irreducibly complex.³⁴ This claim is virtually definitional. By a 'large-scale structural change' (LSSC) I mean a situation of non-incremental change in a significant number of social structures/institutions. Since these structures are the basis of predictability in social action and interaction, their disappearance/collapse in significant numbers not only implies uncertainty with respect to the institutions themselves, but renders uncertain all of the actions taken under the assumption that those structures would remain fixed, at least locally in time. Social structures are the most important members of the set of *cetera* that are usually taken to be *paribus* in analyses of the sort reviewed in the main body of this paper. Thus, while it is surely the case that LSSC are characterized by empirical regularities at the social structural level (with implications for understanding their effects at the individual level), it is precisely at the level of individual choice that such situations are irreducibly complex. That is, we cannot expect laws, or plausible law-like generalizations, at the level relevant to dealing with LSSCs.

I am not asserting the impossibility of useful generalizations about LSSC. The claim in the preceding paragraph is, of course, itself a generalization. What I am asserting is that the most useful generalizations are likely to be strongly inductive in form. That is, we badly need more systematic organization of the basic facts of policy reform. In a sense, the emphasis on a generalization closely tied to well-established empirical evidence recognizes the pre-theoretic stage of knowledge about LSSC in general and large scale policy reform in particular. There is a massive (and rapidly growing) literature of country studies and the beginnings of attempts to systematize the knowledge in those studies.³⁵ Plundering this research for single 'stylized facts' to be rationalized by one of the essentially infinite family of models that can provide such a rationalization seems profoundly unuseful, while the attempt to identify empirical regularities in the experience of countries undergoing large scale policy reform will ultimately provide the kind of basis that will make meaningful generalizations of a larger sort possible. A second implication of the argument that makes up the bulk of this paper is that the most useful empirical generalizations will be of a macro nature. That

is, they will involve the empirical regularities among structures and changes in structures, more-or-less unmediated by claims about individual choice.

A final point relates to the difference between scientific knowledge and best policy advice. The fact that the policy situation is complex need not mean that the best policy advice is complex. For example, it is at least possible that cold bath reform dominates a reform strategy that involves an incremental strategy with complicated sequencing. However, it is the case that justifying such a strategy requires explicit attention to the complexity involved. Furthermore, it will surely be the case that the best evidence in favour of such a claim (namely, the superiority of the cold bath) will relate to the macro-consequences and will not rest on small-scale models of individual choice with only a dubious relationship to relevant experience.

NOTES

- 1 The last clause is important. If we have little confidence in our model of the economy, or political economy, the value of an extension of any normative statement relative to that economy to a concrete existing economy is considerably devalued.
- 2 This framing of the issues directly contradicts the claims made for the new research on the political economy of policy reform in Rodrik (1993). I hope it will be clear as the argument is developed that I find this research to be quite useful in auditing the logic of various arguments that have been made for the failure of policy reform and which may constitute some part of an explanation in any concrete case.
- 3 Note that this notion of empirical content is very different from that attributed to Friedman in his 1953 'The methodology of positive economics'. Given the extreme simplicity of the models and the extreme complexity and disequilibrium nature of the phenomenon, even framing a 'test' approaches fraud.
- 4 This is just as true of illiberal elements of essentially liberal trade regimes. Thus, while there is a substantial literature on the political economy of administered protection in industrial countries, there is virtually no research by economists on the historically striking liberalness of all industrial countries. Apparently, there is no need to explain good policy.
- 5 Although we reserve our outrage for the excesses of trade activists, we often experience acute embarrassment at attempts by our allies (for example, *The Economist*) selectively to use the results from modern economic research to bolster an essentially religious belief in the virtues of free trade while simultaneously revealing ignorance of, or scorn for, the analysis necessary to derive the results.
- 6 Surveys of this research can be found in Hillman (1989), Nelson (1988) and Rodrik (1995a).
- 7 This application of the Hotelling–Downs result can be found in Wolfgang Mayer's (1984) important paper on the political economy of the tariff.
- 8 This statement is not strictly correct, if the models are reasonably accurate, they can be used to give advice to agents outside the domestic political system – thus, the interest in such analyses by the IMF and the World Bank. Once those institutions are also included, however, the same problem emerges. In addition, we are still left with the question of why such institutions should care (or even exist). The same comment applies to economists: why should a profession committed to a strong form of individualism identify its policy conclusions as definitive of good policy and itself as the guardian of public virtue.

- 9 The policy change is an improvement relative to \mathcal{E} and a particular set of value judgements shared more-or-less in common by professional economists.
- 10 Hillman (1991) pursues the logic of the Rodrik paper in a number of additional directions.
- 11 Panagariya and Rodrik (1993) make essentially the same argument in the context of an analysis of the political-economic virtues of uniform tariffs (formally like administered protection in Hall and Nelson, 1992).
- 12 Political scientists often refer to the political mechanism as a 'regime'. I will use these terms interchangeably. It is certainly the case that, both logically and practically, the instrument set is part of the regime. Given the particular importance of instruments, however, it seems useful to distinguish the instrument set from the rest of the political mechanism.
- 13 Hall *et al.* (1998) argue that the tariff was sufficiently central to electoral competition in the post-Civil War era to permit the application of a referendum model.
- 14 In 1912, in the midst of a Republican (high tariff) era, Theodore Roosevelt ran as a Progressive, splitting the Republican vote and permitting Democrat Woodrow Wilson to win the Presidency. Following the tradition of his party, Wilson promoted a low tariff. Because nothing fundamental had changed, when the Republicans retook the White House in 1920 (Harding) the tariff also returned to a higher level. The collapse of the Republican era and the emergence of the New Deal alignment, for reasons not directly related to the politics of trade, contributed in large part to the shift to low equilibrium tariffs.
- 15 See Baldwin and Nelson (1993) for more on the case of Taiwan. It should be fairly clear that such transitions are only possible if the government is fairly well shielded from public pressure, at least on the issue of trade.
- 16 In related research, Alesina and Tabellini (1989) adopt a model with a pro-capital and a pro-labour party that alternate randomly in office and, when in office, each party pursues explicitly redistributive policies in favour of its constituents. The authors use this framework to explain excessive accumulation of foreign debt by government and private capital flight.
- 17 Long and Vousden (1991) present a more carefully developed general equilibrium analysis using the Peltzman–Becker political-support function approach. They show that in the context of a well-specified model outcomes are considerably less certain than suggested by Hillman – turning on what happens to tariff revenue and the relative risk aversion of various economic agents. Nonetheless, under what Long and Vousden argue to be plausible assumptions, they are able to show that industries facing smooth declines in comparative advantage will be allowed, ultimately, to collapse.
- 18 It should, however, be noted that none of these analyses are intended to provide a full analysis of trade policy reform. Rather, each seeks to illustrate a single fundamental aspect of a more general reform process.
- 19 More detailed reviews can be found in Haggard and Webb (1993), Alesina (1994), Tommasi and Velasco (1996), and Rodrik (1995b).
- 20 Also relevant are differences in the underlying economy (especially the definition of the economic problem faced by agents and policy-makers); and the political mechanism. In each of these cases, however, there is as much variation within categories as between.
- 21 It obviously makes no sense to think of asymmetric information with identical agents.
- 22 In Tornell's analysis these groups are taken to be the owners of firms in the import-substituting sector and the elites of the parastatal sector. Nothing turns on this particular allocation of roles (which is, of course, central to Tornell's discussion of the Mexican context); these groups are politically and economically identical in the

formal model. In fact, in Velasco's multi-group extension, and in their joint work (Tornell and Velasco, 1992; and Velasco and Tornell, 1991) applying the model to the political economy of growth, this particular identification of groups is not adopted. What is essential is that the exploited group, while not politically organized, is able to avoid taxation by investing abroad instead of investing at home. Özler and Rodrik (1992) used a similar assumption in their model of the political-economy of private investment. All of these essentially follow Lancaster (1971) in assuming that the state is controlled by labour and capital responds to expropriatory policy via economic actions.

- 23 Roland and Verdier (1994) and Rodrik (1995c) adopt essentially this structure in a more explicitly dynamic framework to account for resistance to, and reversal of, reform in Eastern European economies. Saint-Paul (1993) considers the effect of similar forces on the political-economy of reform of labour market institutions in Western Europe.
 - 24 Note that, although this model uses a simple referendum, the analysis is not intended to be literally about voting – the voting is just a trope representing *some* unmodelled process of political preference aggregation. This is very different from the Tornell and Velasco papers where the simple form of lobbying in the model is taken to represent more complex forms of lobbying in existing political-economies.
 - 25 Unlike the illustration of the main point, the assertion by Fernandez and Rodrik that the model implies that a large reform is necessary to induce sufficient *ex ante* support clearly is highly model dependent. First, even if size of reform is politically unconstrained, the feasible size of reform is dependent on the structure of the economy. Furthermore, other details of the political-economic environment may have a significant effect on the optimal policy. For example, Dewatripont and Roland (1992a,b), using a different model based on uncertainty and asymmetric information, argue that gradualism dominates larger reforms from a political economy perspective.
- Similarly, the claim that the experiences of 'countries like Korea, Chile and Turkey' provide empirical support for the model seems essentially footless. Given that there are a large number of models that are observationally equivalent (given the roughness of empirical characterization of country experience and the small number of cases), it seems quite reasonable to assert that Fernandez/Rodrik-type uncertainty plays some role in virtually all reforms, but a claim that it plays a determinative role in any particular reform seems extremely hard to sustain.
- 26 Thus, as in Tornell's paper, capital flight is a weapon of the rich against expropriation by the poor. Unlike Tornell, however, Labán and Sturzenegger assume that the 'rich' are politically active in the politics of policy reform.
 - 27 While there is no explicit information transmission, it is probably most useful to think about this as informational heterogeneity.
 - 28 Given the role of a sluggish supply response in arguing *for* gradualism, it is particularly interesting that van Wijnbergen's argument turns specifically on the relationship between gradualism and poor supply response.
 - 29 The war of attrition is a game in which the player willing to compete longest wins. Playing the game is costly (but not necessarily symmetrically costly) to both players.
 - 30 As with the other analyses that we have considered to this point, the evaluation of particular existing policy reforms requires that we determine how the asymmetric information forces usefully identified by Dewatripont and Roland (1992a,b) interact with other forces in that specific situation.
 - 31 In particular, the fact that crises have often preceded (and possibly been necessary to) major reform does not provide support for the war of attrition model, even though it is a property of the model that crises make change more likely in that model (Drazen

- and Grilli, 1993). Nor does the war of attrition model necessarily help us understand why crises often precede reforms.
- 32 The fundamental paper here is Bikchandani *et al.* (1992). Also useful are: Banerjee (1992), Lee (1993), Vives (1996) and Gale (1996).
- 33 Lohmann (1994) uses exactly this sort of logic to analyse the Leipzig demonstrations of 1989–91 and the collapse of East German communism.
- 34 Philosophers of science have struggled mightily with the question of whether or not social phenomena *in general* are inherently more complex than natural phenomena, thus undermining hopes for a well-founded social science. A representative selection of papers on this topic can be found in Martin and McIntyre (1994, Part II). In this paper, however, I am concerned with an issue that is orthogonal to these. The philosophical issue is whether *any social phenomenon at all* can be meaningfully studied in a general way. The argument of this section is that at least one particular aspect of large-scale structural change cannot be studied in this fashion, and that it is precisely that aspect that is essential to microanalytic positive analysis.
- 35 Among the recent attempts to synthesize the experience of a number of countries, we might note two fine pieces for the differences in their approaches: Haggard and Kaufman (1995) directly synthesize results from detailed country studies, while Sachs and Warner (1995) adopt a more econometrically based approach. Both are useful, and neither is in any way a substitute for the other.

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