RESEARCH SEMINAR IN INTERNATIONAL ECONOMICS

School of Public Policy
University of Michigan
Ann Arbor, Michigan 48109-1220

Discussion Paper No. 400

An Overview of the Modeling of the Choices and Consequences of U.S. Trade Policy

Alan V. Deardorff and Robert M. Stern
University of Michigan

May 28, 1997

Recent RSIE Discussion Papers are available on the World Wide Web
at: http://www.spp.umich.edu/rsie/workingpapers/wp.html

ABSTRACT

An Overview of the Modeling of the Choices and Consequences of U.S. Trade Policy

Alan V. Deardorff and Robert M. Stern

The University of Michigan

Our paper is designed to provide the context for the theme of the conference, "The Representation of Constituent Interests in the Design and Implementation of U.S. Trade Policies." We begin by reviewing the normative and political economy approaches to the modeling of trade policies. We identify the major limitations of these approaches and then discuss what Dixit (1996) has referred to as the "transaction-cost approach," which may provide a middle ground between the other approaches and enable us to address some hitherto imperfectly understood issues of trade policy. We also include a brief discussion of the empirical literature pertinent to the normative and political economy approaches. We then turn to a sketch of the main features of the U.S. trade-policy process, focusing in particular on the roles played by the agencies of government together with the important constituent interest groups in the U.S. economy. We consider how these can be interpreted in the light of the modeling approaches, and we also ask what can be learned from the past half-century of U.S. trade policy experiences.

Chapter 2 of *Representation of Constituent Interests in the Design and Implementation of U.S. Trade Policies: The Sweetland Conference*, Alan V. Deardorff and Robert M. Stern, eds., proceedings of a conference sponsored by Department of Economics and School of Public Policy, University of Michigan, Ann Arbor, MI, November 8-9, 1996.

Keywords: Political Economy of Trade
Transactions Cost Approach

JEL Subject Code: F13 Trade Policy

Correspondence:

Alan V. Deardorff
Department of Economics
University of Michigan
Ann Arbor, MI 48109-1220

Tel. 313-764-6817
Fax. 313-763-9181
E-mail: alandear@umich.ed

jlj, 5/21/97, 5/28/97

CHAPTER 2

AN OVERVIEW OF THE MODELING OF THE CHOICES AND CONSEQUENCES OF U.S. TRADE POLICIES

Alan V. Deardorff and Robert M. Stern

I. Introduction

Our paper is designed to provide the context for the theme of the conference, which is "The Representation of Constituent Interests in the Design and Implementation of U.S. Trade Policies." In Section II, we first review the normative and political economy approaches to the modeling of trade policies. The normative approach is the basis for the traditional analysis of the welfare effects of trade and the choice of policies designed to correct distortions in the economy and to achieve first-best optima. The political economy approach provides an analytical framework for understanding of the choices made by policy makers in a political setting in response to the lobbying and related activities of producing interests. We identify the major limitations of these approaches and then discuss what Dixit (1996) has referred to in his recent work as the "transaction-cost approach," which may provide a middle ground between the other approaches and enable us to address some hitherto imperfectly understood issues of trade policy. We also include in Section II a brief discussion of the empirical literature pertinent to the normative and political economy approaches.

In Section III, we provide a sketch of the main features of the U.S. trade-policy process, focusing in particular on the roles played by the agencies of government together with the important constituent interest groups in the U.S. economy. We then consider how each of the modeling approaches can be interpreted in its representation of the behavior and interactions of the different constituencies. Setting the modeling issues aside, we also ask what can be learned from the past half-century of U.S. trade policy experiences, and we observe that there has been a distinctive movement towards more liberal and open trade in the United States and elsewhere.

In Section IV, we conclude with some summary remarks and discuss the implications of the interplay of the different modeling approaches for research and policy in light of our observation about the ways in which trade liberalization and increased openness have evolved.

II. Issues of Policy Design and Choice

Economic theories have traditionally been divided into two categories, positive and normative, the former attempting to describe what is, the latter what ought to be. Analyses of economic policies, such as international trade policies, have similarly been of these two types. Normative analysis of trade policies has included, for example, theories of the optimal tariff, while positive analysis, since it must describe the behavior of policy makers, has typically been labeled the political economy of trade policy. In this section we will briefly review these two strands of literature. Then we will discuss a new approach to policy analysis, dubbed by Dixit (1996) the "transaction-cost" approach, and examine what it may say for the design of international economic policy.

The Normative Approach to Policy Making

The normative approach to policy making has a very long history in the field of trade policy, extending back to the earliest writings of Smith and Ricardo on the desirability of free trade. Normative analysis starts with a conception (often implicit) of a social welfare function of the Bergson-Samuelson variety, which is built up from the utility functions of individuals. In other cases, normative conclusions are motivated only by a Pareto efficiency criterion, that is, that no opportunities remain unexploited that would improve the welfare of one individual without harming another. On these bases, trade theorists have established some now classic results:

- That free trade is Pareto optimal for the world as a whole.
- That free trade is Pareto optimal for a country whose domestic markets are not distorted, provided that the country is too small to influence its terms of trade.

- That a large country can optimally exploit its power over the terms of trade, and therefore over its trading partners, by levying a positive tariff, provided however that other countries do not respond in kind.
- That while trade intervention may be welfare improving even for a small country if distortions exist within it, a better policy will always deal more directly with those distortions.

Distortions here refer to all manner of departures from the norm of perfect competition that has provided the benchmark for optimality in a closed economy since the work of Arrow and Debreu. A short list of such distortions would include: externalities, positive or negative, across consumers and/or producers; market power on the part of buyers and/or sellers that enables them to influence prices; policies that intervene in markets causing differences in the prices faced by different consumers and/or producers; and noneconomic objectives that enter the social welfare function with or without appearing in individual utility functions. Any of these will give rise to the potential for benefit from some sort of policy that itself introduces another distortion. Ideally such a policy should be designed either to correct or offset the distortion by making the policy-induced distortion equal and opposite to the distortion being corrected. Trade policies, because they distort prices faced by both producers and consumers, are almost always suboptimal and often welfare worsening. As we suggested some years ago in Deardorff and Stern (1987), use of trade policy is like "doing acupuncture with a fork" since no matter how well you aim the first prong (distortion), the other will cause unwanted damage. The one exception is the terms of trade argument for a large country, where the failure of individual producers and consumers to internalize their country's effect on the terms of trade distorts both of their decisions equally.

A critical issue in any normative policy analysis, however, trade or otherwise, is the distribution of income. If the income distribution matters to society, as it surely must, then one could include it in the above list of distortions, with the implication that the first-best policy for dealing with it would be one that directly redistributes income without itself introducing other unwanted distortions. Such a policy would be a system of lump-sum taxes and transfers, defined as payments that do not depend on any behavior that is in the

control of those affected. In the static world of Arrow-Debreu general equilibrium, where either time does not exist or where all transactions to the end of time are contracted in advance, such a policy is easy to define. In the real world, however, it is impossible both to base such payments on observables that are truly outside the control of the individuals whose income is to be altered, and to have the resulting payments do any good in improving the income distribution. Most obviously, basing payments on observed income will induce both payers and recipients to deliberately earn less income, so as to alter the payments in their favor. Therefore the prescription of using a first best policy for redistributing income is not helpful.

In the field of public finance, there is a large literature dealing accordingly with "optimal taxation," attempting to identify how best to use the necessarily distorting tax policy tools that are available. In the field of international trade, the issue of income distribution has been dealt with primarily by arguing that, in this case, trade policies are not even second best. Dixit and Norman (1980, 1984) have shown that removal of trade policies can be accompanied by changes in commodity (consumer) taxes and subsidies in such a way as to leave all consumers at least as well off as before. A corollary is that any desired change in income distribution can be achieved better by using commodity taxes and subsidies than by using trade policies, even though the former are themselves only second best since they too provide incentives to alter behavior.

These strong implications of normative analysis of trade policies are viewed by some as rather troubling, since they prescribe policies that are so at variance with what we see being used in the world. The only first-best use of trade policy that the normative analysis allows is to improve the terms of trade. This motivation would suggest at best, however, that trade would be restricted only by large countries, whereas we typically observe the largest trade barriers used in developing countries, many of which are economically quite small. At the same time, normative analysis provides hardly any rationale at all for policies that promote trade, rather than restricting it, although the new trade theory has identified certain special cases where subsidies to trade may be welfare improving for strategic reasons. Therefore the normative analysis identifies as optimal a world that is so far from what we actually observe that one may wonder about its relevance, and even its accuracy.

The Political Economy Approach to Policy Making

In part because of dissatisfaction with normative theory as a means of understanding actual international trade policies, the political economy approach has been developed by a variety of authors over the last two decades especially. This literature has taken the positive approach of trying to *explain what is, not necessarily what ought to be*, and that has meant modeling the political process in some fashion along with the economics of trade. Since this literature has been ably surveyed several times, most recently by Rodrik (1995) and by Helpman (1995), rather than duplicate their efforts, we will simply provide a short overview, based largely on their contributions.[1]

The unified treatment that characterized the normative approach has not been possible for the political economy models, largely because there is no consensus model of the political process. Instead, various authors have identified different features of the political environment and political processes to stress in their modeling, and they have consequently obtained a corresponding variety of conclusions. The five principal types of model are listed in Table 2.1, which has been adapted mainly from Rodrik (1995) and Helpman (1995). The first two of these model types attempt explicitly to model the political electoral process, along with the economics. The last three, on the other hand, deal more abstractly with political forces, assuming that lobbyists and/or policy makers set political contributions and/or levels of protection to maximize their own welfare given the action of the other group. In effect, they model protection as the result of an equilibrium between supply and demand for protection along the lines outlined by Baldwin (1982).

The most straightforward modeling of the political determinants of protection was done by Mayer (1984), who explicitly modeled a simple political environment in which tariffs are selected by direct democracy, that is, by majority vote. Letting the level of protection be voted on directly means that it will be set to favor the median voter. By combining this assumption with a standard model of international trade (Mayer considered both a Heckscher-Ohlin (H-O) model and a specific factors (SF) model), Mayer was able

[1] Both surveys provide ample references to the literature that can be consulted for more detailed analysis and discussion.

to predict tariffs based on the distribution of ownership of factors of production. Unfortunately, if factors are narrowly owned while consumer interests are broad, this approach predicts counter-factually that tariffs will be nonexistent, or even negative. In the H-O model, if labor ownership is broad while capital ownership is concentrated, the model delivers protection on the labor intensive good, which seems more plausible. And if a small cost of voting is added to the SF model, decision can be taken away from the median voter and a broad pattern of protection favoring specific factors can emerge. However, the approach suffers in all cases from the unreality of the assumption that individual tariffs are determined by majority vote, which is virtually never the case in practice.

Magee, Brock, and Young (1989) (MBY) sought greater realism in modeling the electoral process by assuming representative democracy. To the 2×2×2 H-O trade model they added two political parties, one favoring free trade and the other protection, plus two lobbying groups, representing the interests of the two factors of production. Parties announce their intended levels of protection in their political platforms, adjusting these levels to maximize their probabilities of election given the contributions they expect from lobbyists responding to those platforms. Lobbyists then set their optimal contributions in response. This model has much greater realism than the direct democracy model, but it is much weaker in its ability to yield clear implications. It is, for example, the only approach from which Helpman was unable to derive a clean expression for the level of protection, as reported in the final column of Table 2.1, where it is noted only that protection depends on the Nash equilibrium of a game.[2] Furthermore, the attempt at greater realism is perhaps inevitably unsuccessful, since it can never capture the full richness of what actual political parties and lobbying groups are able to do, or how their interaction results in an electoral outcome.

An alternative approach, therefore, has been to focus not on the actual mechanics of the political process and it methods of making decisions, but rather to model the larger forces that interact in producing policy outcomes and the ways that participants in the process deal with these forces. The first such example

[2] That is, equilibrium is defined as levels of protection for each party that are optimal given the level of protection provided by other party. However, it is apparently not possible to solve for this equilibrium in an explicit form comparable to the formulas obtained from the other models.

actually predated Mayer's (1984) direct democracy model, and was provided by Findlay and Wellisz (1982). They subsumed the entire policy-making process into a black box, so to speak, that translated lobbying expenditure into tariffs. This "tariff formation function" was then the basis for optimization by owners of sector-specific factors, who would choose their levels of lobbying to maximize the net benefits to them of securing protection.

A second such approach was, in a sense, the mirror image of the tariff formation function approach. Hillman (1989) started instead from a "political support function," which in effect translated the tariff provided by a policy maker into the level of political support that it would receive in return. This, then, was another black box, this time on the industry side, although Hillman did assume that the support arising due to the profits generated by the tariff would be tempered by a loss of political support in other dimensions due to the tariff's induced economic inefficiency. Thus here it is the policy maker, not the industry, who optimizes, balancing the political gains from providing protection against the political losses from inefficiency, both of which were embodied in the political support function.

Just as the tariff formation function approach focused on the decision to demand protection, leaving the supply of protection unexplained, the political support function approach focuses on the supply of protection, leaving the demand for it unexplained. These two approaches were therefore complementary, and it was natural that the next step would combine them. This was the contribution of Grossman and Helpman (1994).[3]

In this "political contributions approach," the lobbying expenditures of Findlay-Wellisz become direct payments, but instead of contributing to the campaigns of political parties as in MBY, the Grossman-Helpman industries make payments directly to policy makers already in office. Also, the contributors stipulate that their payments are in return for protection—in fact they offer an entire schedule of payments to the policy makers, stating the amounts that they will contribute as functions of the protection provided. The policy makers, in turn, make optimal choices from these schedules, which were themselves determined

optimally by the industries. In effect, then, the political contributions approach combines the tariff formation function and the political support function, each however now being derived as the optimal response to the other.

At the present time, the political contributions approach of Grossman and Helpman is the state of the art in the political economy of trade policy, and it has indeed proven to be a useful and versatile analytical framework. Its authors have succeeded in applying the approach not only to the original problem of explaining tariffs, but also to explaining competition and cooperation in tariff setting, the politics of free trade areas, and other issues.

These political economy models have moved us well beyond the limited understanding of international trade policies that we had before they were developed. We now can see a variety of reasons why the political process yields outcomes that economists view as suboptimal. Furthermore, that understanding has been embodied in an analytical framework where we can observe the tradeoffs of competing interests and even predict, to an extent, how the political and economic systems will respond to changes in the conditions that they face.

As for explaining the level of protection itself, most of these approaches yield predictions of what considerations will lead to more or less protection. Helpman (1995) expressed each of the above approaches to political economy in a unified modeling framework and was able to derive the explicit tariff formulas that were predicted by four of the five approaches. The implications of these tariff formulas in terms of what motivates protection are listed in the final column of Table 2.1. It is interesting that the approaches all agreed on the (positive) importance of both industry size as well as inelasticity of demand in giving rise to protection for a sector. Each approach also has its own distinctive parameters that influence protection, while the approaches disagree on the role of the number of people in an industry in determining its protection.

---

[3] Feenstra and Bhagwati (1982) also modeled supply and demand for protection interactively, as a game between labor and government.

On the other hand, there still exist a number of issues that are unexplained by any of these political economy models. This, in fact, was the theme of Rodrik (1995), who noted several such gaps in the theory. These were:

Why is international trade not free? The models explain why governments intervene in the economy, which is in order to alter the distribution of income in favor of certain interests. But they do not explain why intervention in trade is the tool used for this purpose, except by assuming that it is the only tool available. We know from the normative approach to trade policy that trade intervention is not first best for this purpose, and optimizing governments and/or industry interests could therefore gain more of whatever they are seeking by using other policies. Thus if those other policies were included in the political economy models, they would imply that trade of small countries would be free. Rodrik reviews several papers that have provided partial but rather specialized answers to this question. He concludes (p. 1476) that "a sufficiently general and convincing explanation for this phenomenon has yet to be formulated."

Why are trade policies universally biased against trade? Even with only trade policies admitted into the models as tools, many of them have the unfortunate implication that trade should be subsidized as often as it is taxed. That is, the same considerations that lead a government to favor an import-competing industry with a tariff should lead it to favor export industries with export subsidies. Yet this is clearly not the case in the real world, where explicit export subsidies are confined primarily to agriculture, while tariffs and other trade restrictions have been applied pretty much across the board for industrial products. One answer to this is to point to the GATT prohibition against export subsidies, but this seems only to beg the question, since the GATT prohibition (against export subsidies but not against tariffs) remains unexplained. Rodrik finds only a handful of explanations for the bias against trade in the literature, the most successful in his view being a combination of history (that tariffs were the best or only way that early governments had to generate revenues) and some model of persistence, or bias in favor of the status quo.

What are the determinants of the variation in protection levels across industries, countries and time? Here there has been more work done, both empirical and theoretical, and indeed part of the motivation

for the political economy literature on trade policy has been to explain or illuminate some of the empirical work that preceded it. But while reviewing with approval some efforts to explain what has been observed empirically, Rodrik's assessment (p. 1482) is that "these empirical regularities overlap only imperfectly with the results of the theoretical literature." We shall have more to say on this below.

The Transaction-Cost Approach to Policy Making

While it seems clear that the normative approach to policy making suffers from its failure to incorporate political considerations that in fact prevent optimal policies from being undertaken, the political economy approach perhaps goes too far in the other direction. With all policies being determined endogenously, there is no scope for policy analysis itself to make any contribution. That is, the same model that tells us that the policy makers will use tariffs to protect special interests also tells us that it is useless to ask them to do otherwise. They are, at least in the models that address their behavior explicitly, already behaving optimally given their incentives and constraints. They are already taking into account, to the extent they are willing, any effects on the broader social welfare that we might tell them about. Indeed, if there really were a role for scholars to play in formulating policy, a proper political economy model should already have incorporated those scholars into the model. There seems accordingly to be no scope for analysts of policy to contribute to the improvement of the world economy, except perhaps by diligently carrying out their assigned role as information providers.

A possible escape from this conundrum is provided by the literature on public choice, of which the political economy approach to policy making is really a part. Buchanan and Tulloch (1962) and later writings by Buchanan and others distinguished between the individual policies made by policy makers and the framework, or constitution, within which those policy makers operate. As Dixit (1996) puts it, there is a distinction between *policy acts* and *policy rules*. Policy acts are determined endogenously by policy makers interacting with other interests and within the framework of constraints and incentives that the policy rules provide, and it is therefore useless to try to change those acts at that level. But the policy rules are set less

frequently and from behind a "veil of uncertainty" as to how the rules will affect those who set the rules. The proper role for policy analysis is therefore to inform the setting of the rules. Thus, for example in the context of the Grossman-Helpman political economy model of trade policy, it is pointless to tell the policy makers that tariffs benefit industries at the expense of consumers. They already know that, and they are taking it into account when they balance the contributions they receive against the general interest. However, one could still press for a revision of the rules that would, say, make contributions more difficult, or that would enhance the incentive for policy makers to respond to social welfare. Unfortunately, constitutions are seldom rewritten, and therefore if the only hope for improving public policy is through that channel, an idealistic advocate of improved public policy might be forgiven for being discouraged.

Dixit (1966), however, has argued for a middle ground between the normative analysis and the more positive political economy approach. He argues first that the distinction between policy acts and policy rules is too extreme. On the one hand, policy rules are never really formulated behind a complete veil of uncertainty. Framers of a constitution always have clear ideas of where their own interests lie, at least in the short run, and they cannot be expected to ignore those interests in formulating the rules that they themselves will live by. At the same time, many individual policy acts have implications for future policy rules, as they may influence precedents or expectations of future policies. At both levels, then, makers of both policy rules and policy acts will typically have both some degrees of freedom for working in the public interest, but also some stake in the outcome themselves that limits their degrees of freedom in other dimensions. Policy making is in fact, Dixit argues, an ongoing process that occurs in real time and that blends both the private incentives of the policy makers to respond to special and general interests, together with an evolution of the rules of policy that gradually may change those incentives.

While this may seem very confusing and imprecise, Dixit suggests a fruitful way to sort out how policy is constrained, but that may nonetheless guide that evolution. This is to focus on "transaction costs." He defines these as any distortions in the political and/or economic environments that interfere with the direct pursuit of the optima that a normative analysis might identify. These include things like uncertainty

and asymmetric information, incomplete contracts, agency problems,[4] bounded rationality, and no doubt many others. The proper role for policy analysts, then, is not to tell policy makers what to do (the policy acts) on an ongoing basis, or to wait for infrequent opportunities to revise the entire constitution of policy. Rather they should be watching for opportunities that arise more frequently to make changes in the rules of policy, and their recommendations should be formulated against the backdrop of the transaction costs that may already be evident in the kinds of policy rules that are currently in place. That is, they should be looking for changes in rules and procedures that allow the economic and political systems to deal more effectively with transaction costs. These changes may be only small and incremental, but on occasion they may involve or lead to regime changes that are sizable in scope.

Dixit gives only one formal example of how this might work. He builds a model of common agency, in which multiple principals are served by a single agent whom they attempt to influence for their own benefit. With the acts of the agent only imperfectly observable by the principals, they will in general be unable to motivate a first-best outcome for all concerned, even if they were to act together. The reason is the problem of moral hazard that routinely arises in such cases, reflecting a tradeoff between efficiency and risk sharing, and this is one example of a transactions cost. An additional transaction cost is also present here, however, if the principals cannot act together. Acting independently, and even if each cares only about a separate dimension of the agent's behavior, they nonetheless will provide incentives to the agent to skimp on their service of other principals, in order to get more for themselves. The result is even worse than the second-best outcome that could have been achieved had they acted together. Dixit shows, however, that if principals can be prevented from penalizing the service to other principals, perhaps by removing their access to information about that service, then the principals acting separately will do better than even the second-best outcome they could have achieved together. That is, in this context in which an agent provides separate services for multiple principals, the principals will be better served if each is *not* told what the agent has done for others, as compared to all having full information. This is an example, albeit rather abstract, in

[4] This refers to the problems that arise when one individual, the agent, acts on behalf of another, the principal. The

which it would serve no purpose to instruct the agent simply to implement a first-best policy, since the agent cannot be expected to ignore the incentives coming from the principals. But a change in the framework of policy, in this case changing the information that is available to the principals, is both possible and may be agreed upon, since it permits a more efficient outcome that can benefit all and that none will have the means or incentive to undermine.

In this view, institutional arrangements that condition policy choices should be viewed as "coping mechanisms" for dealing with transaction costs, and they should be judged not on whether they yield first-best outcomes but rather on whether they do better than alternative arrangements that are available for the same purpose. Thus in Dixit's example above, the underlying transaction costs, which arise first from moral hazard and second from the presence of multiple principals, make a first-best outcome impossible. Allowing each of the multiple principals independently to lobby the agent may be far from optimal, but as a means of coping with these transaction costs it may nonetheless be better than alternatives that, say, might neglect the interests of many of these principals altogether. On the other hand, once it has been discovered by means of economic analysis that this particular coping mechanism can be improved upon by restricting the information available to the principals, it becomes possible to improve the coping mechanism. And note that such an improvement may not need to wait for a complete overhaul of the policy regime such as might accompany a new constitution.[5] Rather, coping mechanisms can be modified in both small and large ways, and in real time, as either the system or our understanding of it evolve.

What does all of this have to do with trade policy? Here, alas, we are on our own, since Dixit's book does not address the questions that we would most like his approach to answer for our purpose here. The closest he comes to applying his transaction-cost approach to trade policy is a thoughtful discussion of the international trading system in the second half of the twentieth century, from the GATT to the WTO. He

---

problem is for the principal to devise a system of incentives that will induce the agent to act in the principal's interest.

[5] That of course depends on what the existing constitution says. In the example, if the existing constitution mandates freedom of information, then the needed change to restrict the principals' knowledge of each others' benefits might require a constitutional change. For while it is in their collective interests to restrict information, each individually would have an incentive to seek that information given the freedom to do so.

uses transaction costs, for example, to explain the presence of exceptions in the GATT and WTO rules on tariff bindings. Without the safeguards clause, which permits countries to raise tariffs when a surge of imports causes major damage to a domestic competing industry, the GATT would be unable to sustain its cooperation in the face of its Prisoners' Dilemma incentives to defect. Dixit also discusses other features of the GATT and WTO rules, such as the treatments of textiles, agriculture, and nontariff barriers, all of which he sees as coping mechanisms but not especially good ones.

Dixit does not address the questions that Rodrik identified as being unanswered by the political economy approaches to trade policy, and we may ask whether the transaction-cost approach offers any better hope of resolving them. We will focus only on the first two of Rodrik's three questions: Why is international trade not free? And why are trade policies universally biased against trade? Interpretations of these questions, in light of the political economy literature, might be: Why do policy makers redistribute income by taxing imports instead of (more efficiently) subsidizing production? And why do they also seem to favor import-competing industries over export industries, taxing imports but not subsidizing exports?

A simple, and hardly new, answer to both of these questions is that tariffs on imports are much less well understood by the public (and perhaps also by the policy makers and their constituents) than are subsidies. A subsidy to production is clearly a hand-out, and the public understands that. Even when a subsidy is provided not by direct payment but by a tax break, the public understands that as well. But the benefits from a tariff (or quota) on imports may not be viewed as accruing directly to the industry that benefits, even though as economists we understand that the effect is the same as if it did. On the contrary, a tariff on imports may be viewed as mattering most directly only for foreign producers, and even its effect on domestic consumers is not always fully appreciated by the lay public. Furthermore, the beneficiary from a tariff appears to be the government, which collects the revenue, a fact that even adversely affected consumers might perceive as offsetting some of their loss (as indeed it does). Thus, the fact that a tariff has all of the effects (and more) of a subsidy to domestic producers is something that the producers may figure out, but that the rest of the citizenry may find difficult to comprehend. Similarly, regarding the bias against

trade, while a government may protect its import-competing industries without complete public understanding, a similar attempt to assist export industries with a subsidy will be understood at once. Therefore both of Rodrik's questions can possibly be answered by noting the difficulty of the public's understanding the true effects of tariffs in contrast to the ease of understanding the effects of subsidies.

As far as we can see, this explanation of patterns of policy assistance does not fit well into any political economy approach to policy. But it may well fit within the transaction-cost approach. Problems of incomplete and asymmetric information have already been mentioned as sources of transaction costs, as well as the need for policy institutions to find ways of coping with them. Those problems had to do with knowing what a particular economic agent was doing. Here we are stressing a different kind of incomplete information: the incomplete understanding of economic cause and effect that characterizes a potentially important part of the public. This is a transaction cost as much as the others, and like the others it has led to coping mechanisms.[6]

One such coping mechanism is simply education. Over the last half century, the message of economists about the effects of trade policy has been repeated in schools, in the press, and even occasionally (though not recently) in presidential debates. It may be argued that this has been in part responsible for the remarkable reduction in tariffs that has been achieved over this period. Of course, this occurred in conjunction with another coping mechanism, the GATT and the rounds of multilateral trade negotiation that it sponsored. As already noted, Dixit sees the history of the GATT as a good example of coping with transaction costs, which he identified as Prisoners' Dilemma incentives that would otherwise characterize trade policy in the absence of GATT-sponsored cooperation. But we would argue that the GATT, and now the WTO, has been a mechanism also of coping with public ignorance about trade policy. And it truly has been an exercise of coping with the cost, not removing it, for the rule of the GATT has not so much been to educate the public about the true effects of trade as to instill instead a sense of international obligation that may have some of the same effect. We return to this point at the end of Section III.

Of course, no coping mechanism is perfect, and this has been true in spades of the GATT success in bringing down tariffs. To some extent, as the public has come to recognize the adverse effects of tariffs, attention has merely shifted to trade policy tools that are even less comprehensible, such as quotas, voluntary export restraints, and government-to-government political pressures. The increasing resort to NTBs as tariffs have fallen is well documented, although their overall quantitative significance has not been definitively measured.[7] Our own view is that the decline in tariffs has done far more good than the harm caused by the NTBs that have replaced them. But the rise of NTBs has meant that the informational transactions costs in trade policy that remain will be more difficult to cope with than those we have faced previously.

Empirical Evidence

Our discussion thus far has focused on the conceptual aspects of the different approaches to the modeling of trade policy. In this connection, it may be useful to supplement this discussion with reference to some of the pertinent empirical literature and methodology used.

The Normative Approach

A variety of empirical methods have been used to study the cost of protection or subsidies and its counterpart, the reduction/removal of these policies. These methods include: (1) partial equilibrium estimates by commodity group/sector, based primarily on assumed values of demand and supply elasticities; (2) partial equilibrium industry studies using econometric analysis; and (3) computable general equilibrium (CGE) model simulations. These studies typically yield estimates of the welfare effects of tariffs and NTBs of various kinds, with varying degrees of precision depending on the assumptions used especially in choosing or estimating the critical elasticity parameters and different market structures.

---

[6] As noted in Table 3 below, Krueger (1996) suggests a number of examples of simple arguments favoring protection that achieve public acceptance even though the protection may be detrimental to consumer welfare.
[7] See Deardorff and Stern (1996) for an analysis of methods of measuring NTBs.

Illustrative studies include: (1) Hufbauer and Elliot's (1994) partial equilibrium estimates of the cost of U.S. protection by sector; (2) review of measurement of NTBs by Deardorff and Stern (1996); (3) econometric analysis of the U.S. auto sector by Berry, Levinsohn, and Pakes (1995); and Martin and Winters (1996), which contains several CGE analyses of the effects of the Uruguay Round negotiations. While these different types of studies have certain methodological limitations, they are nonetheless useful in calling attention to the orders of magnitude of the welfare effects of existing trade policies and changes in these policies. They can serve accordingly as a kind of benchmark in determining how significant the departures from first-best optima may be. Of course, there will still remain a need to understand why these trade policies are used in the political context and what their impact will be through time as coping mechanisms may or may not come into play.

The Political Economy Approach

There is a very substantial empirical literature that has sought to explain the determinants of trade policy. These include both regression-type studies and case studies of the experiences of individual countries and sectors. Many of these studies have related to U.S. trade policy, although some cross-country studies have been done as well. Rodrik (1995) surveys many of the pertinent regression studies, while Krueger (1996) contains case studies of a number of important U.S. sectors that have been the object of U.S. trade-policy actions. Some of the key findings and hypotheses that emerge from the various studies are summarized in Tables 2.2 and 2.3.

As already mentioned, Rodrik notes (p. 1480) that there has not been a very close link between the theoretical and empirical research, and that the empirical research has thus often been designed in an intuitive rather than rigorous manner. From the final column in Table 2.1, industry size and employment would appear to be important theoretically, although the expected sign of employment is not the same for all the models. However, the actual evidence summarized in Table 2.2 appears to emphasize many other factors that are not represented directly in the different modeling approaches. Much the same can be said about many of the key hypotheses derived from the U.S. case studies summarized in Table 2.3. This is not to deny

the accomplishments of the formal political economy models described in Table 2.1. But it suggests nevertheless that these models provide but a limited understanding of what in fact are the main determinants and consequences of trade policy in the United States and other countries.

III. Representation of Constituent Interests

In this section, we first discuss the main features of the U.S. trade-policy process and then interpret this process in the light of the modeling approaches just discussed. We consider thereafter what can be learned about the design and consequences of U.S. trade-policy experiences in the past half century since the end of World War II.

Structure of the U.S. Trade-Policy Process

In Figure 2.1, we present a schematic overview of how the U.S. trade-policy process is structured and its various functions. This will of course be very familiar to trade specialists. Nonetheless, it will be helpful in clarifying the subsequent discussion of the advantages and limitations of the different modeling approaches. The top part of the figure depicts the Executive Branch, Congress, and the main administrative agency, the International Trade Commission (ITC), which investigates especially alleged violations of U.S. trade laws. We also show membership in the World Trade Organization (WTO), which is the bridge between U.S. domestic trade laws and their international counterparts as embodied in the WTO charter. The locus of U.S. trade policies is centered in the Executive Branch, in particular in the Office of the U.S. Trade Representative (USTR), which was established in the 1960s in an effort to concentrate in a single agency the responsibilities for decision making on trade matters and international trade negotiations that previously had been carried out on an interagency basis at the cabinet level. The National Economic Council was established by the Clinton Administration in 1993 and presumably provides recommendations on the overall directions of U.S. trade policies. The Council of Economic Advisors (CEA) dates from the period immediately following World War II, and it provides information and analytical evaluations of all aspects of U.S. economic policies, both domestic and international. One of the three CEA members typically is an

academic specialist in international trade and finance. The USTR maintains close working relations with firms and labor organizations by means of the so-called Industry Sector Advisory Committees (ISACs) that are especially active in periods of international trade negotiations. The USTR also works closely with the pertinent Congressional committees that deal with issues of trade policy.

In the U.S. Congress, the two most important committees involved in the trade-policy process are the House Ways and Means Committee and the Senate Finance Committee. Other congressional committees also deal often with trade issues when these issues bear upon their policy domains. But traditionally the Ways and Means and Finance Committees play the major roles in the trade-policy process because of their authority over tax and expenditure decisions. The division of authority on trade issues between the Executive Branch and the Congress has of course been discussed extensively over the years. In this connection, it seems fair to say that, during the period since World War II, the Executive Branch played the decisive role until the early 1970s, and that since then the Congress has become much more active in defining the trade-policy agenda and the design of trade policies.

In the bottom part of Figure 2.1, we depict the array of constituent interests who are affected by trade policies and who in turn may influence the choice and design of trade policies by means of political contributions to candidates and parties, facilitating legal actions on behalf of trade clients, advocacy of the public interest, and providing information on trade and related issues to the branches and agencies of government and to the other constituent interests noted.

We typically associate efforts to influence trade policies with the activities of private-sector producing interests. These interests embrace both firms and workers across the economic spectrum, including agriculture, manufacturing, and services. This is not to say, however, that these sectoral activities share common objectives, since the producing interests may differ depending upon their position in the economy, that is, whether they are import-competing, export, or nontradable sectors, and the degree of foreign ownership and operation. Furthermore, the ways in which sectoral influences are expressed may stem directly from the firms and workers themselves or through a variety of organizations, including

sectoral associations, organized labor, political action committees (PACs), and specialized lobbying, consulting, and legal firms. We also designate a separate category of law firms that specialize in the provision of legal services in connection with the administration of the trade laws on behalf of their clients. While we have not had the opportunity to gather evidence on the lobbying and related expenditures and other activities of private-sector producing interests, it is our impression that these interests account for the major share of the resources designed to influence trade policy. But there are other constituent interests to consider as well.

Thus we indicate a category that represents the public interest, including organizations that specialize in providing information and that seek to influence government policies relating especially to the environment, human rights, and consumer choice and welfare. These public-interest organizations have grown increasingly in number and size especially since the 1970s and have given voice to concern about the ways in which U.S. trade and other economic policies impact on the environment and on economic, social, and political conditions both in the United States and in other nations. Many of these groups were especially active in the NAFTA debate in 1992-93, and they have continued to be involved in many current trade policy issues. These public-interest organizations are by no means uni-dimensional, in the sense that some may promote a policy agenda favoring economic efficiency and growth while others may take more absolutist positions that place much less emphasis on economic efficiency and growth as ends in themselves and greater emphasis on social and political objectives. We also include foundations in the public-interest category. They provide financial support to some of the advocacy organizations and especially to academic institutions and "think tanks" that we depict as information providers. Foundation support can serve both the general public interest as well as special interests.

The final category shown in Figure 2.1 refers to information providers. These include print, broadcast, and electronic media that gather and disseminate economic and other information to government and to the various constituencies noted and that may pursue particular economic policy objectives depending on their target audiences. Academic institutions also serve as providers of information on trade

and other economic policies, both through classroom teaching and through the dissemination of theoretical and applied economic research. We include here as well think tanks that specialize in economic research, some of which parallels what goes on in academic institutions, but which commonly involves some particular policy orientation dependent in large measure on the sources of funding.

It is difficult to determine without further study how important and effective the different constituent interests may be in influencing trade policy. Nonetheless, it is evident from Figure 2.1 that the trade-policy process is a complex structure involving a host of agents and principals. The branches and agencies of government provide the impetus for trade-policy initiatives that are intended to serve the public interest as well as to cater to special interests by implementing protectionist measures that restrict import trade and by furnishing subsidies that are designed to expand exports. While our discussion has been focused on trade policy, we should also mention that the agencies of government and constituent interests are involved in policy activities that affect inward and outward foreign direct investment (FDI), banking, and portfolio investment, all of which may have a direct or indirect bearing on trade and trade policies. It is important to emphasize in any case that there is a continuous interaction between the agents of government and the multitude of principals who comprise the constituent interest groups noted. It is interesting in this light now to consider how the trade-policy process is represented in the different modeling approaches that were discussed in the preceding section.

Modeling U.S. Trade Policies

We have distinguished three modeling approaches to U.S. trade policies: (1) the normative approach based on a social welfare function; (2) the positive approach based on political economy; and (3) the transaction-cost approach that is a middle ground between the foregoing two approaches. We shall discuss each of these in turn using the framework in Figure 2.1.

Normative Approach

As already discussed, the normative approach to trade policy assumes that the government has an objective function whose arguments include welfare maximization and optimal resource allocation under conditions of perfect competition. For a system like this to operate successfully, there is a need for a government that in itself works perfectly and that is capable of implementing policies that will achieve its welfare maximization and efficiency goals. Whether and how governments can in actuality be organized and operated to attain the conditions of this first-best world is not dealt with in this normative modeling approach. On the theoretical level at least, it is required that the government be omniscient and behave, so to speak, as a beneficent dictator. But what remains unclear in these circumstances is why governments will be created to begin with and, if they are created, what the rules may be that will guide their policy choices. The normative approach thus seems to take the existence of perfect government for granted and interprets its role in policy making as implementing the prescriptions of the normative approach for the general benefit of society.

In terms of our Figure 2.1, it is as if the Executive Branch can play an omniscient and beneficent role. But given the structure of the U.S. Government noted in the figure, together with the variety and complexity of the constituent interests, it might appear that a leap of imagination is required to make the normative approach viable. This is all the more true once account is taken of the possible violations of one or more of the modeling assumptions noted above. It might be argued nonetheless that it may not be necessary to model the structure of the trade-policy process in detail. This will be the case especially if policy makers are guided by welfare and efficiency objectives in formulating and executing trade policies. If so, the normative approach can provide the framework for evaluation of alternative policies based on the conventional welfare analysis that is familiar to trade economists.

Clearly, however, this may be stretching things, because the normative approach does not explain why governments choose the trade policies that they do, especially when these policy choices are so

frequently at variance with first-best optimal criteria. It is for this reason that so much attention has been devoted to the political economy approach to which we now turn.

Political Economy Approach

As noted above, the political economy approach is especially valuable insofar as it enhances the understanding of the forces that shape the choice and design of trade policies. What the different political economy models have in common is that they give greater weight to some individuals and interest groups than to others in determining policy choices overall. Welfare considerations thus either do not enter at all in the policy process or enter only alongside distributional considerations. In terms of our Figure 2.1, trade policy choices will be influenced both in the Executive Branch and in the Congress especially, whereas the investigatory power of the ITC is based mainly on the facts and legal interpretations embodied in U.S. trade laws as they were formulated in those other branches. According to the political economy approach, the private-sector producing interests, together with the trade law actions of legal firms acting in their behalf, are the driving forces determining the trade policy choices of government. There is also scope for international actions since policy choices may be interdependent particularly in the cases of large countries and trading blocs.

Because the political economy approach focuses primarily on the influence of producer interests in determining policy choices and electoral politics, Figure 2.1 suggests that there are some potentially important interests that this approach does not take sufficiently into account. These include the variety of public interest and advocacy organizations, especially those that are concerned with issues of trade and the environment, human rights, and other noneconomic, trade-related objectives such as the fostering of democratic political and social institutions. This applies also to the role played by information providers. In essence, then, the political economy approach is incomplete and needs to be adapted to make allowance for those other constituent group activities. But what is perhaps the main limitation of the political economy approach is that, because it is not concerned with the pros and cons of alternative trade policies, it offers no guidance to policy makers in choosing among the available policy alternatives. As already stressed, this is

what the normative approach seeks to accomplish. The question then is whether or not Dixit's transaction-cost approach provides a useful middle ground between the other two approaches.

The Transaction-Cost Approach

To understand issues of trade and other economic policies, the transaction-cost approach emphasizes that society is comprised of numerous agents acting on behalf of numerous principals and carrying out numerous policies in real time. Our Figure 2.1 is thus helpful in calling attention to the multiplicity of constituent groups who care about what government does and who seek to influence its policy choices. Unless we take this broad view, it appears to us difficult to comprehend the choice and outcome of trade policies. An amalgam of the normative and political economy approaches is therefore essential. To help accomplish this end, we need especially to study how the different constituencies are organized and how they intersect with each problem in the trade-policy process. One way to do this is to consider particular trade policy changes and their economic effects over time. It would be essential in this regard to identify the transaction costs at issue that stand in the way of achieving first-best results and at the same time to consider the coping mechanisms that are operative. These coping mechanisms will be indicative of the success or failure of the government in reducing transaction costs by its policy actions and associated efforts on the part of both the government and different constituent groups to mitigate the consequences of both market and political failures. We shall return to these matters in our concluding section, but, before doing so, it might be worthwhile to put our modeling discussion aside and to consider what can be learned from observation of the overall experiences of U.S. trade policies in the past half century.

What Can Be Learned from the U.S. Trade-Policy Experiences of the Past Fifty Years?

In reflecting on the U.S. trade-policy experiences in the half century since the end of World War II, it is useful to consider these experiences within the transaction-cost framework as involving the interplay between the forces of trade liberalization and protectionism/export subsidies as a dynamic process occurring

in real time. It is beyond the scope of our paper to review the quantitative dimensions of the post-World War II effects of U.S. trade policies. Nonetheless, our reading of the literature and assessment of the actual outcomes of the trade-policy process strongly suggest on balance that the U.S. economy has been subject to a distinctive liberalizing orientation and resultant overall improvement in economic welfare, even when changes in income distribution are taken into account. If our interpretation is correct, it appears that the coping mechanisms involved in U.S. trade policies have been sufficiently powerful so as to reduce transaction costs over time. We realize of course that not everyone would accept this conclusion, citing especially the frequent resort to nontariff protectionism in the past two decades or more and the long-standing restrictions applied especially to trade in agricultural products and apparel.

But granting this, the general orientation of U.S. domestic and trade policies in favor of market-based outcomes and the lowering of U.S. and foreign trade barriers has in our judgment ruled the day. As noted in our earlier discussion, this has been reinforced by the existence and influence of the General Agreement on Tariffs and Trade (GATT), which provided the context and authority for trade liberalization and nondiscrimination for GATT members by means of the GATT articles of agreement and the periodic multilateral trade negotiations that have taken place, most recently with conclusion of the Uruguay Round negotiations and creation of the WTO in 1994. U.S. leadership has without question been the driving force in helping to reduce tariff barriers as well as trying to address the problems created by NTBs. This process has of course been far from perfect, but, in our view, the outcome has nevertheless been highly beneficial to the major industrialized and developing countries involved in the global trading system. The increasing tendency in recent years in many newly industrializing countries and in the former socialist economies to reduce and remove barriers to domestic production and trade and to move towards market-based resource allocation has thus far served to reinforce the liberalizing orientation of the global economic system.

We cannot say with certainty of course whether the movement towards increased liberalization will be continued in the future. But it appears to us to be a reasonable working assumption that this will be the case. Our view here is colored by the prospect of a stronger international body represented by the newly

created WTO that has put in place what promises to be a more effective dispute settlement mechanism. It will clearly require time and experience to determine whether the WTO can fulfill its expectations. Much will depend on how the major actors in the global system respond and whether they will use the WTO to fend off special interests domestically that may seek to influence national policies that contravene WTO rules and obligations. There is also the issue of whether the spread of regional trading arrangements will help or hinder the liberalizing process. In our view, regionalism is likely to turn out to be a liberalizing force, especially insofar as it leads smaller countries to lock in the reduction of domestic and external barriers in exchange for market access. The key here will be whether this can be done in a welfare enhancing manner.

A final consideration that deserves mention is the important role played by international investment in the global economy. It has been the case that restrictions on international capital flows among the major industrialized countries especially have been markedly reduced in the past half century. This is evidenced by the significant narrowing of interest differentials, which can be taken as a sign of increased efficiency in the functioning of international financial markets. These markets have also witnessed many innovations by international financial institutions that have been reflected in changes in their organizational structure and increases in the kinds of international financial instruments available to market participants. The tendency of international financial markets to move closer to conditions of perfect international capital mobility is really quite remarkable, even given the downside of possibly excessive exchange-rate volatility in today's floating rate system and problems of domestic monetary management that some countries have encountered.

Equally important have been the substantial increases in foreign direct investment and the associated trade accounted for by multinational corporations (MNCs). While most FDI is carried out by MNCs operating among the group of major industrialized countries, there have been sizable movements of FDI to the newly industrializing countries, especially in East and Southeast Asia and also in Latin America. What is so important about FDI is that it serves to foster more efficient international allocation of resources

and the transfer of technology. Again, FDI may have its downside, but this pales in comparison to the truly significant benefits that MNCs have brought about.

We conclude this section by emphasizing how powerful the forces of liberalization of international trade and international investment have been in the past half century for the United States and other countries in the global economic system. The question at hand then is how we can relate this experience to the modeling of trade policy that has been the subject of our preceding discussion.

IV. Conclusions and Implications for Research and Policy

In broad terms what our discussion reveals is a history of far more intervention in international trade than can be explained by the normative approach to analysis of trade policy, yet also a reasonably steady and quite substantial movement towards more open markets and more liberal trade in the past half century. The political economy approach to trade policy has provided important insights into why it is that the prescriptions of normative analysis often fail to be observed. But it has so far neglected to incorporate various constituent interests other than producing interests who appear to have played important roles in the U.S. trade policy process. Furthermore, the political economy approach alone seems ill-equipped to explain the steady movement toward freer trade that has occurred.

Staiger (1995) provides an interesting model of gradual trade liberalization that results when producer interests are gradually eroded over time. What happens is that early partial liberalization causes the specific factors in protected sectors to depreciate and migrate elsewhere, and this makes further future liberalization politically feasible. Here political economy helps to explain the pace of liberalization, but it does not explain why it occurs at all, which depends in Staiger's model on an assumed "political will" to liberalize.

Our conjecture, following these various lines of research but especially Dixit's discussion of transaction costs, is that this "political will" may be found in the ongoing efforts of the many interested actors in the economy to cope with the transactions costs that have led to protection in the first place.

Focusing only on producer interests, and especially those who compete with imports, has enabled the political economy approach to explain protection. But that approach will have to incorporate additional interests, including not only other producers but also many of the other interests that we identified in Figure 2.1, if it is to explain more fully why these political forces result in protection rather than other more direct policies of income redistribution and, especially, if it is to explain the overall movement toward more liberal trade that we have witnessed in the post-World War II period.

We speculated earlier that one of the transaction costs that may explain protection is the difficulty that the public has in understanding the true effects of trade and other policies. If that is true, then the movement towards more liberal trade may be the result of increasingly successful efforts on the part of many of the interests in Figure 2.1 to cope with this lack of understanding. In the long run, one of the most important constituent interests in U.S. trade policy may be our very selves!

References

Baldwin, Robert E. 1982. "The Political Economy of Protection," in Jagdish Bhagwati (ed.), *Import Competition and Response*. Chicago: University of Chicago Press.

Berry, Steven, James Levinsohn, and Ariel Pakes. 1995. "Voluntary Export Restraints on Automobiles: Evaluating a Strategic Trade Policy," in process, January 30.

Buchanan, James M. and Gordon Tulloch. 1962. *The Calculus of Consent*. Ann Arbor, MI: University of Michigan Press.

Deardorff, Alan V. and Robert M. Stern. 1987. "Current Issues in U.S. Trade Policy: An Overview," in Robert M. Stern (ed.), *U.S. Trade Policies in a Changing World Economy*. Cambridge, MA: MIT Press, Chapter 2, pp. 15-68.

Deardorff, Alan V. and Robert M. Stern. 1996. *Measurement of Nontariff Barriers*, report prepared for the Organization of Economic Cooperation and Development.

Dixit, Avinash K. 1996. *The Making of Economic Policy: A Transaction-Cost Politics Perspective.* Cambridge, MA: M.I.T. Press.

Dixit, Avinash K. and Victor Norman. 1980. *Theory of International Trade*. London: Cambridge University Press.

Dixit, Avinash K. and Victor Norman. 1984. "Gains from Trade without Lump-Sum Compensation," *Journal of International Economics* 21: 111-122.

Feenstra, Robert C. and Jagdish N. Bagwhati. 1982. "Tariff Seeking and the Efficient Tariff," in Jagdish Bhagwati (ed.), *Import Competition and Response*. Chicago: University of Chicago Press.

Findlay, R. and S. Wellisz. 1982. "Endogenous Tariffs, the Political Economy of Trade Restrictions, and Welfare," in Jagdish Bhagwati (ed.), *Import Competition and Response*. Chicago: University of Chicago Press.

Grossman, Gene M. and Elhanan Helpman. 1994. "Protection for Sale," *American Economic Review* 84: 833-850; reprinted in Alan V. Deardorff, James Levinsohn, and Robert M. Stern (eds.), *New Directions in Trade Theory*. Ann Arbor, MI: University of Michigan Press.

Helpman, Elhanan. 1995. "Politics and Trade Policy," Discussion Paper No. 1269, Centre for Economic Policy Research, London (November).

Hillman, Arye L. 1989. *The Political Economy of Protection*. London: Harwood.

Hufbauer, Gary C. and Kimberly A. Elliott. 1994. *Measuring the Costs of Protection in the United States*. Washington, D.C.: Institute for International Economics.

Krueger, Anne O. 1996. *The Political Economy of American Trade Policy.* Chicago: University of Chicago Press.

Magee, Stephen P., William A. Brock, and Leslie Young. 1989. *Black Hole Tariffs and Endogenous Policy Formation*. Cambridge, MA: M.I.T. Press.

Martin, Will and L. Alan Winters. 1996. *The Uruguay Round: Widening and Deepening the World Trading System*. New York: Cambridge University Press.

Mayer, Wolfgang. 1984. "Endogenous Tariff Formation," *American Economic Review* 74: 970-985.

Rodrik, Dani. 1995. "Political Economy of Trade Policy," in G. Grossman and K. Rogoff (eds.), *Handbook of International Economics, Vol. III*. Amsterdam: North-Holland.

Staiger, Robert W. 1995 "A Theory of Gradual Trade Liberalization," in Alan V. Deardorff, James Levinsohn, and Robert M. Stern (eds.), *New Directions in Trade Theory*. Ann Arbor, MI: University of Michigan Press.

Table 2.1
Types of Political Economy Models of Trade Policy

Modeling approach	Author(s)	Who sets tariffs?	How it works	Protection depends on
Median-voter approach (Direct democracy)	Mayer (1984)	Median voter: by selecting tariff that maximizes that voter's welfare	Population derives income from industries, possibly protected. They vote on level of tariff, which therefore maximizes the income of the median voter.	+ median voter's share of ownership + number of people in industry + size of sector – elasticity of import demand
Campaign contributions approach (Electoral competition)	Magee-Brock-Young (1989)	Politicians and lobbyists jointly: Parties select tariffs to benefit their associated factor, while lobbyists contribute to their probability of election.	Elections depend on contributions. Factor owners contribute to precommitted political parties to maximize their earnings.	outcome of Nash game
Tariff-formation function approach	Findlay-Wellisz (1982)	Industries: by spending resources on lobbying and optimizing on the given tariff-formation function.	Tariff assumed to depend directly on resources spent on lobbying. All individuals maximize their incomes.	+ relative effectiveness of pro- vs. anti- protection dollars. – number of people in industry + size of sector – elasticity of import demand
Political support function approach	Hillman (1989)	Policy makers: by selecting tariffs to maximize given political support function.	"Political support" depends on industry profits and efficiency. Policy makers maximize political support.	– weight of efficiency in political support + size of sector – elasticity of import demand
Political contributions approach	Grossman-Helpman (1994)	Politicians: to maximize objective function defined on contributions and welfare.	Single incumbent chooses policy to maximize contributions and economic welfare. Industry (specific factor) lobbyists offer optimal contributions contingent on policies.	– number of people in industry – weight attached to welfare + size of sector – elasticity of import demand

Source: Adapted from Rodrik (1995) and Helpman (1995).

Table 2.2

Summary of Key Results of Empirical Studies of the Determinants of Protection

1. Protection across industries

Protection received by an industry is higher when:

- it is a labor-intensive, low-skill, low-wage industry;
- it has high import penetration, has experienced an increase in import penetration, or has been in decline;
- it produces consumer goods rather than intermediate goods;
- it engages in little intra-industry trade;
- its customers are not highly concentrated.

There is mixed evidence on whether high levels of industry concentration result in greater protection.

Tariffs and NTBs may be complements.

2. Protection across countries or institutional contexts

- Average tariff rates tend to decrease as capital-labor ratios increase.
- Poor countries tend to tax agriculture while rich countries subsidize it.
- NTBs are higher in countries that are economically large, have higher unemployment rates, have larger average size and smaller average number of parliamentary constituencies, and use proportional representation as their electoral system (subject to the degree of autonomy of party leaders).
- In U.S. antidumping proceedings, the determination of dumping depends on technical factors while the determination of injury is more political and is affected by industry concentration, size, and employment.

3. Protection over time in the United States

- The average tariff level tends to rise in recessions.
- Historically Republicans have tended to raise tariffs and Democrats to reduce them.
- The delegation of tariff setting to the Executive Branch has resulted in the lowering of tariffs and reduced susceptibility to narrow pressure groups.
- There may be higher levels of protection when the political parties are divided between the Executive Branch and the Congress.

4. Protection over time in developing countries

- In a deep economic crisis, when economy-wide macroeconomic reforms are introduced, it may be easier to introduce trade-policy reforms as well.

Source: Adapted from Rodrik (1995, pp. 1480-87).

Table 2.3

Summary of Key Political Economy Hypotheses Based on Case Studies of U.S. Sectoral Trade Policies

1. **U.S. economic and political interests are not effectively served by protectionism.** The interests of final consumers are not taken into account. No consideration is given to the effects of protection on the costs to other industries. Protection introduced in periods of recession tends to remain in place.

2. **Simple rather than complex arguments are most effective in obtaining industry protection.** Considerations of "fairness," "equity," job loss, the "need" for an industry, and maintenance of incomes are often invoked in seeking protection.

3. **Political clout is crucial in obtaining protection**.

4. **Institutions may be designed to constrain protection**, as for example, in NAFTA and the Uruguay Round agreement in which protection is to be phased out over time.

5. **Protection may not actually help protected sectors because of offsetting market-induced responses and technological change.**

6. **Protection is more likely when there is unanimity among the firms involved.** User industries appear generally unwilling to oppose protection that raises their input costs.

7. **Effective lobbying and organization of interest groups are important determinants of protection.**

8. **Past protection can be expected to lead to future protection.** History matters.

Source: Adapted from Krueger (1996, pp. 431-41).

Figure 2.1

Structure of the U.S. Trade Policy Process

